NAVSTA ROTA, SPAIN

SPILL PREVENTION, CONTROL AND REPORTING PLAN

VOLUME 1

Atlantic Division
Naval Facilities Engineering Command
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Record of NAVSTA Rota SPCR Updates and Changes

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EXECUTIVE SUMMARY

The Naval Station (NAVSTA) Rota Spill Prevention, Control and Reporting (SPCR) Plan is separated into two volumes for ease of use:

VOLUME 1: (Condensed Version) Advises who to call, when, defines a significant spill, immediate response actions, and summarizes locations where a significant spill may occur, and includes 17 specific sites. This version is condensed for the general user.

VOLUME 2: (Long Version) Details prevention, control, reporting, and training procedures and requirements summarized in volume 1. Elaborates on Incident Command System (ICS) implementation, surveillance, inspections, training exercises, drills and record keeping. Complies with COMFAIRMED instruction 5090.3A (Navy On-scene Coordinator) and Final Governing Standards (FGS) for Spain 1994 version, provides Tank Inventory and Management Plan (TMP), oil and hazardous substance inventory, deficiencies and facility recommendations, and worst-case spill scenarios.

This is a working document for specific answers to evaluator's questions. Copy of this volume is maintained within the Public Works Environmental Office, not intended for general use.

This is an Environmental response, prevention and control document adhering to the requirements in OPNAV instruction 5090.1, COMFAIRMED instruction 5090.3 and Final Governing Standards for Spain. It does not address incidents covered under other U.S. Navy directives and protocols, such as:

1) Weapons and munitions related incidents

2) Infectious, pathological and biological medical waste

3) Radiological incidents

4) Warfare/Force Protection and Disaster Preparedness issues.

1.0 INTRODUCTION

1.1 Regulations

The U.S. Department of Defense (DOD) Environmental Final Governing Standards (FGS) for Spain define the environmental protection compliance standards for DOD installations in Spain. The FGS for Spain were developed by adopting the more protective requirements of the Overseas Environmental Baseline Guidance Document (OEBGD), European Union laws and regulations, and Spanish laws and regulations at the national, regional, and local levels.

A facility is required to be included in the SPCR Plan if it is capable of producing a significant spill. A significant spill is defined by quantity as follows:

- Hazardous Waste (HW) or Hazardous Substance (HS) spill in excess of the corresponding reportable quantity (RQ) listed for the particular HW or HS in Table A.4 of FGS

- Refined Petroleum, Oil and Lubricants (POL) or liquid or semi-liquid hazardous material Hazardous Material (HM), HW, or HS spill in excess of 110 gallons

- Other HM in excess of 500 pounds (lbs.)

- A combination of POL and HM, HW, or HS in excess of 750 lbs.

In addition, facilities located near an environmentally sensitive area with the potential to impact the environment have been included in the Spill Prevention, Control and Reporting (SPCR) Plan.

NAVSTA Rota is required to have a SPCR Plan because it is capable of producing a significant spill as defined above.

All handling and storage facilities that are responsible for HS or POL materials in excess of the above quantities are required to have a copy of Volume 1 of the NAVSTA Rota SPCR Plan.

1.2 Administrations and Policy

This Spill Prevention Control and Reporting (SPCR) Plan has been prepared in accordance with Chapter 18 of the Final Governing Standards (FGS) for Spain, 1994.

Sixteen facilities at NAVSTA Rota have been identified as having the potential to produce a significant spill as defined by the FGS. A comprehensive review of these facilities is given in Volume 1, and recommended corrective actions are given in Annex N of this volume.

Spill prevention, control, and reporting procedures for all HS, HW and POL handling and storing facilities are described in this volume.

1.2.1 SPCR Plan Update Requirements

- The FGS require the SPCR Plan to be updated at least every five years or when there are significant changes in operations or facilities or a significant spill occurs.

- COMFAIRMED requires that the SPCR Plan be reviewed annually and updated as needed.

- Changes of personnel, titles, codes, and telephone numbers will be provided by notice.

Compliance to the SPCR Plan is mandatory for all SPCR facilities identified herein. **The SPCR Plan supersedes all previous spill contingency plans**.

1.3 SPCR Organization

Volume 1 contains the general spill policy and the Facility Evaluations (SPCR facilities) identified at NAVSTA Rota.

Volume 2 contains spill prevention, control and reporting procedures for NAVSTA Rota and annexes with supporting information.

1.4 NAVSTA Rota Description

1.4.1 Mission

NAVSTA Rota supports naval activities of the Sixth Fleet in the Mediterranean. The Naval Station provides facilities, services and material support for operations and maintenance of naval weapons and aircraft for activities and units of the operating forces as designated by the Chief of Naval Operations. Facilities at NAVSTA Rota include three fueling piers, a large airport, various large fuel storage facilities, a power plant, and various other support facilities.

1.4.2 History

The U. S. Naval Complex at Rota was constructed in response to the September 1953 Defense Agreement permitting U. S. and Spanish cooperation to build and occupy various military bases on Spanish soil. Early construction began in 1955 and has continued to the present. The base is used by both the U.S. Navy and Spanish Navy.

1.4.3 Location

NAVSTA Rota consists of more than 150 facilities located on the Bay of Cadiz on the west coast of southern Spain. Facilities at NAVSTA Rota are shown in Annex A. The approximate number of activity personnel is 9,000 total, including a military population of approximately 4,500, although the population has decreased since 1994. NAVSTA Rota supports 491 single-family housing units and 91 multi-family housing units.

2.0 SPILL POLICY

2.1 COMNAVACTSPAIN/NAVSTAROTA General Spill Policy

YOU SPILL YOU DIG!

All activities on-board NAVSTA will clean up all spills regardless of quantity, significance, or whether you have to report it. All activities that have the potential for a significant spill will have the capability to clean up a minor spill (up to 110 gallons of POL).

The spill causing activity has the primary responsibility for spill notification and cleanup (i.e., providing manpower, materials, absorbents, shovels, brooms, drums, etc.). The spill causing activity will prepare the incident report, as needed.

If a response action is required, once the spill is stabilized and contained by the Fire Department, the spill causing activity will support the cleanup and be responsible for disposal. (Tenant/Visiting Command may be responsible for response costs.)

All spills (of any amount) on the flightline should be reported to the Fire Department at ext: 2950.

SIGNIFICANT SPILL: Any *uncontained* spill of petroleum products, oil and lubricants (POL) or hazardous material/waste greater than the reportable quantity (RQ) -- or if the Facility Incident Commander (FIC) determines a spill is significant.

If a spill is contained inside an impervious berm, or on a non-porous surface, or inside a building and is not volatilized and is cleaned up, the spill is considered a contained release and is not considered a significant spill. Significant spills must be reported and documented. (See detailed notification requirements in Section 2.9.2, and Section 4 of Volume 2.)

Example: Immediate cleanup is key; if a 50 gallon POL spill on land is ignored, not cleaned up immediately and allowed to seep into ground, that is significant, even though it is not specified as a reportable quantity.

Common RQ examples (**Not sure? Report it**):
See requirements section on reports. (Section 2.9.2)

Type Material	Examples	RQ* (*ANY AMOUNT IN THE WATER!)	Equivalent* (*ANY AMOUNT IN THE WATER!)
1. Petroleum products	JP8, JP5, Diesel, used/unused lube oil, hydraulic fluid, kerosene, etc.	110 gallons	Two 55-gallon drums
2. Hazardous waste: D001 – Ignitable D002 – Corrosive D007 – Chromates	 Paint related material Sulfuric Acid, Sodium hydroxide Alodine	 100 pounds 100 pounds 10 pounds	 12.5 gallons 12.5 gallons 1 gallon
3. Hazardous Material: Ethylene Glycol Calcium Hypochlorite Toluene	 Auto Anti-Freeze Decon. Agent, disinfectant Paint thinner	 110 gallons 10 pounds 1000 pounds	 Two 55-gallon drums 1 gallon 125 gallons

2.2 Initial Response Actions

The phone number ***911*** is Emergency Dispatch, used for Emergencies. This number immediately invokes Fire, Police, Ambulance or Disaster Preparedness Officer, as needed, 24 hours a day, 7 days a week. **It should be used for emergencies only!** Refer to communications plan (see Figure 2.1 at end of section) and Section 2.9 (notification checklist) for non-emergency Immediate Notifications.

What constitutes an Emergency?

1. Fires, smoke, explosions, alarms

2. Personnel injuries

3. Unknown situations, not sure what to do? Where it's coming from? Too much to handle? Call for help **before** it gets out of control.

As stated in general spill policy, all activities at NAVSTA Rota that handle hazardous materials and petroleum products will have the capability to contain a spill they may cause.

When a significant spill is first detected (>110 gallons POL), the following actions should be taken:

1) Without endangering yourself, stop the leak or spill.

2) Evacuate personnel to a safe distance upwind and upgrade from the spill.

3) Pass the word to people in adjacent places.

4) Inform your supervisor or the supervisor of the nearest facility.

5) Dial 911 (security dispatch).

6) Give the following information:

- Name, telephone number, and identification of caller
- Time and location of spill
- Identity and quantity of spill materials
- Origin and cause of spill
- Description of spill (behavior of spill, affected areas)
- Anticipated movement of spill
- Planned or initiated actions
- Type of assistance required
- Is the spill on land or in the harbor waters?

7) For water spills, notify Port Operations Duty Officer (number 911) to activate the Water Immediate Response Team.

8) Restrict all sources of ignition.

9) If a person has been splashed with a fuel or chemical, wash him/her with plenty of water for at least 15 minutes, remove all contaminated clothing, and GET MEDICAL ATTENTION: EXT. 911.

10) If a person has been overexposed by inhalation, get the victim to fresh air, supply artificial respiration, if necessary, and GET MEDICAL ATTENTION.

11) Wait for the NAVSTA Rota Fire Department to arrive and direct them to the spill.

12) Provide Material Safety Data Sheets, if available.

2.3 First Responder: NAVSTA Rota Fire Department

The Fire Department is the First Responder and Immediate Response Team (IRT) for land and support team for water spills. The Fire Department will respond to contain the

spill and to clean up minor spills with available resources only. They are to be notified for all spills regardless of quantity, especially for fuel spills.

2.4 Response Actions

The spill causing activity has the primary responsibility for spill notification and cleanup (i.e., the providing manpower, materials, absorbents, etc.). The spill causing activity will prepare the incident report, as needed.

All activities that have the potential for a significant spill will have the capability to clean up minor spills (up to 110 gallons of POL).

Once the spill is stabilized and contained by the Fire Department, the spill causing activity will support the cleanup. Most land oil spills can be cleaned up using Level D Personal Protection Equipment (PPE), a broom, and a shovel.

2.5 Command Duty Officer (CDO)

The CDO will immediately assume the following duties temporarily as the Installation On-Scene Coordinator (IOSC) and direct immediate response until properly relieved by the IOSC. The CDO is the official Command Representative and is given the authority to act on the behalf of the Commanding Officer in the event of an emergency. The CDO will work closely with the Fire Chief (IOSC), commit resources as the situation dictates, and notify personnel using recall lists at his/her disposal.

2.6 Installation On-Scene Coordinators (IOSCs) for POL/HS

The IOSC for land spills is the Fire Chief. The IOSC for spills during fueling operations is the Fuels Officer. The IOSC for water spills in the harbor is the Port Operations Officer. The IOSCs will implement the SPCR Plan for any significant spill.

2.7 Immediate Response Teams (IRTs)

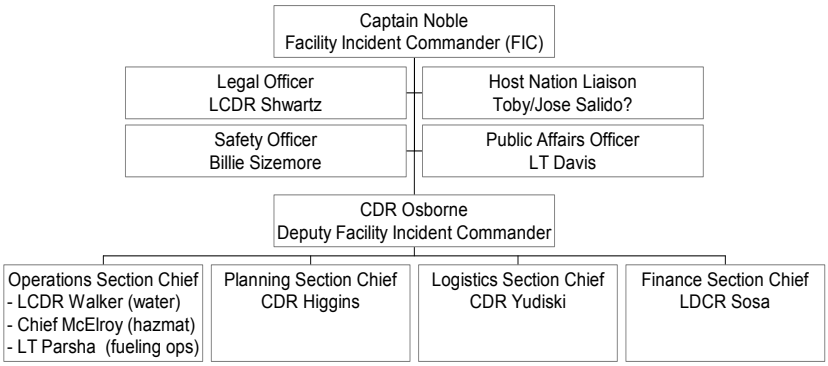
Land IRT: All Personnel have been trained in Emergency Response Procedures. The teams can be reached 24 hours a day, 7 days a week by dialing 911.

Water IRT: All personnel are trained in small boat operations and oil spill containment and recovery. Personnel can be reached 24 hours a day, 7 days a week through the CDO or Port Services Duty Officer by dialing 911.

2.8 Incident Command System (ICS)

The chart below illustrates the NAVSTA Rota OHS Spill Response Organization based on Incident Command System recommended by COMFAIRMED Inst. 5090.3A. Implementation details of the ICS are discussed in Volume 2, Chapter 2.

Incident Command System
Oil and Hazardous Substance Spill Response
NAVSTA Rota Organizational Structure



2.8.1 Responsibilities:

- Legal Officer -- anticipates legal issues and advises.
- Safety Officer -- Establishes safety zones, site safety plan, advises on PPE requirements.
- Host Nation Liaison -- Communicates with Host Nation.
- Public Affairs Officer -- On-base press releases as required. All off-base information through the Spanish Navy.
- Operations Chief -- Executes spill response and cleanup. Identifies resource requirements. Evaluates and reports results of response.
- Planning Operations Officer -- Develops plan and disseminates policy and guidance. Notifies NOSC as required. Coordinates centrally managed training.
- Support Operations Chief -- Supports operations via communications, food, medical support, security, transportation, etc.
- Financial Section Chief -- Tracks expenditures and pursues reimbursement from responsible parties. Handles accounting and personnel administration.

2.9 Notifications

2.9.1 Immediate Notification Checklist and Response Team Members

NOTIFY	TELEPHONE NUMBER	POINT OF CONTACT	NOTIFICATION REQUIRED WHEN:	NOTIFIED
Fire Department	# 911		POL or HS spills are too large to be controlled by facility personnel	
Primary IOSC (Land Spills)	# 2950 (24-Hr. Dispatch)	Fire Chief	POL or HS spills are too large to be controlled by facility personnel	
IOSC (Fuel Spills)	# 2569 # 4989 (24-Hr. Dispatch)	Fuels Officer	POL spills requiring control and cleanup	
IOSC (Water Spills)	# 2020 # 2222 (24-Hr. Quarterdeck) #2232 #2811	Port Ops. Officer Port Ops. Leading Chief Petty Officer Port Control Duty Desk	POL spills requiring control and cleanup in port area	
Naval Station Rota AFTER HOURS	# 2222	CDO/Quarterdeck	Spills requiring control and cleanup assistance; AFTER HOURS	
Safety Manager	# 2409/2252	Billie Sizemore	All HS/POL Spills which require Immediate Response Team Actions	
Environmental Coordinator	# 1418 # 2347 (24-Hr. Dispatch)	Tim Riordan	HS spills requiring control and cleanup assistance occur	
Alternate Environmental Coordinator	# 2809 # 2347 (24-Hr. Dispatch)	Mike Biever	HS spills requiring control and cleanup assistance occur	
Security Manager	# 2155/2779	LT David Kush	All HS/POL Spills which require Immediate Response Team Actions	
Water Crew Supervisor	# 2209	Richard Cox	Chlorine Alarm	
Fuels Division Dispatch	# 4989	Duty Officer	POL spills requiring control and cleanup assistance occur	
Public Works Trouble Desk	# 2347	Duty Officer	All HS/POL Spills which require Immediate Response Team Actions	
Camp Mitchell	# 2141	Duty Officer	All HS/POL Spills which occur at Camp Mitchell	
Hospital	Ext. 3300/3307		Medical assistance needed	
Spanish Port Captain	956-82-6820		POL spills which require Spanish assistance	
Navy On-Scene Coordinator (NOSC)	DSN: 626-4303 COMM: +39-081-568-4303	Admiral Holmes	Notified by Environmental Coordinator, or FIC	
Deputy NOSC	DSN: 626-3099 COMM: +39-081-568-3099	COMFAIRMED N4	Notified by Environmental Coordinator or FIC	
NOSC Representative	DSN: 626-4680 COMM: +39-081-568-4680	Peter Gallant	Notified by Environmental Coordinator	

NOTIFY	TELEPHONE NUMBER	POINT OF CONTACT	NOTIFICATION REQUIRED WHEN:	NOTIFIED
	Cell: +39-335-725-8097			
SDO	DSN: 626-3366/3368 (24 Hrs/Day) COMM: +39-081-568-3366/3368 (24 Hrs/Day)		Notified by Environmental Coordinator	

2.9.2 Reporting Requirements

The Facility Incident Commander (FIC) is responsible for notifying the proper authorities when reportable OHS discharges or releases occur within the FIC's area of jurisdiction. NAVSTA Rota is responsible for response to OHS spills on land and adjacent waters caused by U.S. Navy activities or vessels in Rota.

1) Internal: NAVSTA Rota Fire Department complies with DODI 6055.7 DoD Fire Incident Reporting for all responses, regardless of quantity or significance. A copy of the Spill Prevention Control Report is included in Annex M of Volume 2. NAVSTA Fire Department maintains record.

An additional external report is required for significant spills, as specified below.

2) External: OFFICIAL NAVY MESSAGE (Environmental Coordinator will prepare Oil Spill Report, OPREP-3/SITREPs will be sent using existing protocols). The FIC will immediately notify the COMFAIRMED NOSC and the Executive Agent (CIN CUSNAVEUR) and submit a follow-up written report when:

- The spill occurs inside an installation and cannot be contained within any required berm or secondary containment
- The spill exceeds 400 liters (110 gallons) of POL
- A water source has been polluted
- The FIC is required, in accordance with country specific Final Governing Standards (FGS) or Environmental Executive Agent requirements, to report the spill to the host military
- The FIC has determined that the spill is significant
- If a spill is contained inside an impervious berm, or on a nonporous surface, or inside a building and is not volatilized and is cleaned up, the spill is considered a contained release and is not considered a significant spill.

A significant spill as defined in Spanish FGS is an uncontained release to the land or water in excess of any of the following quantities:

- For a hazardous waste or hazardous substance identified as a result of inclusion in the FGS Appendix A, Table A.4, in a quantity in excess of the reportable quantity

(RQ) listed in RQ column (common examples listed in Section 2.0, and Annex G located in Volume 2)

- For POL or liquid or semi-liquid hazardous material, hazardous waste or hazardous substance, in excess of 400 liters (110 gallons)
- For other solid hazardous material, in excess of 225 Kg (500 pounds)
- For combinations of POL and liquid, semi-liquid and solid hazardous materials, hazardous waste or hazardous substance, in excess of 340 Kg (750 pounds).

When a significant spill occurs inside a DoD installation and cannot be contained within the installation boundaries or threatens the local host-nation drinking water resource, the COMFAIRMED NOSC, CINCUSNAVEUR, and appropriate host nation defense counterpart will be notified immediately.

OPNAVINST 5090.1B Oil Spill Message Report (Significant Spills)
(Examples included in Annex B of Volume 2)

REPORT required information:

1) Date Spill occurred: 01 Oct. 2001, 1600

2) Activity/ship originating release: USS Bataan LHD5

3) Location: Naval Station Rota, Pier 1

4) Amount: 15 gallons

5) Type: Hydraulic Fluid

6) Operation when spilled occurred: Loading operations

7) Spill cause: Hydraulic line leak

8) Slick description/movement: Contained pier side and next to ships hull

9) Spill Environment: Sunny, low sea state

10) Areas damaged: Harbor area surrounding Pier 1

11) Voice report to COMFAIRMED was made

12) Samples were not taken

13) Containment method: Ship's hull

14) Discharge removal method: Sorbents

15) Volume of Product recovered: 5 gallons

16) Parties Performing Pollution Removal: Port Operations

17) Host Nation Regulatory Activity: None

18) Assistance required: None

19) Lessons learned: Boom ship

20) Activity contact: Mike Biever x/2809.

OPREP-3 Reporting

Official Navy messages:

Four different types, complete definitions and examples contained in OPNAVINST 3100.6G (OPREP-3/SITREP) and OPNAVINST 5090.1B (Environmental Natural Resources), summarized below:

1) Navy Pinnacle
2) Navy Blue
3) Unit Sitrep
4) Oil Spill Report

1) Navy Pinnacle: Incident or event occurs which is likely to generate national interest, i.e., attack, terrorist activity, loss of ship, etc.

   Notification time requirement (3100.6G): (voice) 5 minutes from knowledge of event; (message) 20 minutes of event.

2) Navy Blue: Incident or event that may have military, political, or press interest, i.e., violent crime, fires, property damage, discharge of pollutants into critical waters or could threaten public health, welfare or create enforcement actions, etc.

   Notification time requirement (3100.6G): (voice) 5 minutes from knowledge of event; (message) 20 minutes of event.

   NOTE: A small spill in the water, contained, under control, or being responded to and being cleaned up is not a Navy Blue. Spill on land is not a Navy Blue.

3) Unit Sitrep: Incidents or events that do not qualify for pinnacle or blue reporting but may create interest, and follow-up actions.

4) *SIGNIFICANT* Oil Spill Report**: In addition to** OPNAVINST 3100.6G requirements above, land/water spills may or may not require Unit Sitrep (CO's discretion), depends on significance. Specific Oil spill message format specified in Annex B of Volume 2.

Notification time requirement (5090.1B): (voice) immediately upon knowledge; (message) as soon as practicable. If Oil spill report is not closed, follow-up with Unit Sitrep.

Military Sealift Command (MSC), Sixth Fleet Pollution Incidents

NAVSTA Rota may be reimbursed for spill response expenses incurred; documentation and after-action report are required for reimbursement.

2.9.3 Disposal of Spill Debris

Spill debris will be disposed of in accordance with NAVSTA Rota instruction 5090.1 and Chapter 6 (hazardous waste) of the Spanish FGS. Once the waste is consolidated, packaged and identified (i.e., 1348-1, waste profile sheet), Public Works Environmental Division is centrally funded for the disposal of NAVSTA hazardous waste through DRMO; tenant activities will be responsible for funding disposal of their spill debris.

55-gallon drums and absorbents are standard stock items, available through NAVSTA Supply Department at a spilling Activity cost:

Open top for solids – NSN 8110-00-030-7780

Closed top (bung) for liquids – NSN 8110-00-292-9783

Absorbent (50 lb. bag) – NSN 7930-00-269-1272

Absorbent pads for oil 16" X 18" – NSN 4235-01-219-7414

Not intended as complete list, other equivalent materials may be open-purchased using commercial vendors or Milstrip/Fedstrip using DLA Defense Supply Center Richmond (www.dscr.dla.mil).

2.9.4 Training

Training will be conducted and will follow the requirements detailed in Chapter 5.0 of Volume 2.

2.9.5 Spill Communications Plan

NAVSTA Rota's Spill Communications Plan is depicted in Figure 2.1.

FIGURE 2.1: SPILL COMMUNICATIONS

Telephone will be the primary means of communication for facilities and other command level activities such as the field level Incident Response Team (IRT). All NAVSTA response parties are equipped with 2-way radios programmed for interdepartmental communications.

(1) Command Duty Officer (FIC Representative) x/2222
Cellular: **659452541**

NOSC - COMFAIRMED (Naples)

39-081-568-4680

Cell: 3357258097

(2)

PWD Trouble x/2347 (24 hr)

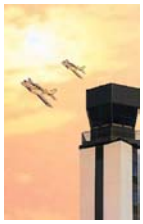
Environmental	Telephone
Tim Riordan **Cell: 659469333**	x/1418
Alt: Mike Biever **Cell: 659921494**	x/2809
PWU- Water Crew for chlorine alarm: Cell: 699452468	x/2209

(1)

Spill ***Emergency*** **(Dial 911)**
Security/DP Dispatch

Hospital/Ambulance
(Needed) x/3307

Spiller is responsible for clean-up support!



IRT's

Help is needed?

Fuels Division (Supply) x/4989 (24 hr.)
(Spills involving fueling operations)

flightline

NON EMERGENCY
90% of spills! (1) (3)

Air Ops.

Water (Port Ops.) x/2811 (no 24 hr)

Duty cell:
659440315
LCPO cell:
617118954
Port Ops Officer:
Cell: 659812187

Land (Fire Dept.) x/2950 (24 hr.)

3.0 SPCR FACILITY EVALUATIONS

Potential POL and Hazardous Substance/Material spills associated with the activities at NAVSTA Rota could result from transfers, tank or pipe failure, leaks, accidents, systems malfunction, human error, or natural disasters. Because NAVSTA Rota has relatively level terrain in the areas in which these products are stored, surface runoff or spills would either pond in depressions in the local topography or would flow to one of the many drainage ditches located on base. Most small spills associated with these areas would soak into the sandy soil before reaching a drainage ditch.

Because much of NAVSTA Rota is unpaved, the potential for POL and HS/HM spills to soak into the ground is high. Leaks from underground storage tanks (USTs) and pipelines are the greatest potential source for subsurface contamination. However, most USTs have been replaced with new double-walled USTs.

Seventeen sites (16 facilities, and one miscellaneous AST section) have been addressed in this SPCR plan because of their ability to produce a significant spill. The site visits were conducted in August of 2001. The following site evaluations contain: general information about the site, a discussion of possible spill risks, a description of storage tanks and products stored, site transfer operations, types of containment, drainage, security, and a site figure. The information presented for each site was obtained by visual inspection of the facility; review of pertinent records, maps, and the May 2001 SPCR Plan; and interviews with NAVSTA Rota personnel. Annex N (Volume 2) presents a list of recommendations for the deficiencies identified during the site evaluation. Volume 2 details spill prevention guidelines for NAVSTA Rota and contains a tank inventory and management plan in Annex D.

Miscellaneous Hazardous Substances and Areas Worth Special Mentioning

Most hazardous substances and materials at NAVSTA Rota are handled through the Consolidated Hazardous Waste Reutilization and Inventory Management Program (CHRIMP) and stored at the HAZMIN Center (Site 3). The following materials or areas are worth special mention for spill planning purposes but are not one of the 17 sites:

Chlorine Gas

Chlorine gas is stored in 100 kg. (220 lb.) cylinders located at Building 536 (near Utilities Power Plant); there are about 12 cylinders in storage (2640 lbs.). It is used at the drinking water reservoir, Building 71 (2 cylinders-440 lbs.). Chapter 5 of the Final Governing Standards (FGS) states any amount greater than the threshold planning quantity (TPQ) of 100 lbs. will be reported to the Executive Agent (CNE). Public Works Utilities is attempting to eliminate the use of Chlorine Gas for drinking water chlorination and use less toxic liquid sodium hypochlorite. The transition has occurred with the Granulated Activated Carbon (GAC) plant, Building 68 (see write up below). NAVSTA Rota's historical use of gaseous chlorine is about 2000 lbs./year and should decrease.

See worst-case scenario in Annex L and a discussion on the hazards of chlorine in Annex G.

Propane

There is a significant amount (i.e., fire piles) of propane used on NAVSTA Rota, roughly 61,000 lbs. It is used at:

- MWR Champions – 6.4 CM
- MWR Fleet Recreation Center – 5.8 CM
- NEX Laundromat – 12 CM
- NEX Laundromat – 7.0 CM
- Camp Mitchell – 10.0 CM
- MWR Reflections – (2) 8.2 CM.

Propane is liquefied petroleum gas and would be considered a significant spill if released (1CM = about 262 gallons). Single storage of greater than 10,000 lbs. (9CM) is considered a significant fire hazard. The tanks are routinely serviced by the Resident Officer in Charge of Construction (ROICC) contract. Propane gas is provided through the Supply Department using a blanket purchase agreement.

GAC Plant, Building 68

In the fuel farm area at the drinking water inlet there is about 5280 lbs. (two 1200 kg. containers) of 15% sodium hypochlorite solution in use. The reportable quantity (RQ) for sodium hypochlorite is 1000 lbs. (125 gallons or 474 liters). The liquid is less toxic then the gaseous chlorine, but not non-hazardous. It is corrosive and an oxidizer. The type used is nearly three times stronger than typical household use chlorine (i.e., clorox). The Supply contract changes containers every 30 days equating an annual usage of roughly 64,000 lbs. A large spill of this material would be considered significant.

Disaster Preparedness Warehouse, Building 1961

There are 140-50 lb. (7000 lbs.) cans of Super Tropical Bleach (Calcium Hypochlorite) stored in this warehouse. The RQ for calcium hypochlorite is 10 lbs.; a release of this material would be considered significant.

DGF High School Science Laboratory Stockroom, Room 803

A significant amount of small quantity chemicals of various types are stored in this room for classroom experiments. The room is designed for this purpose. If a release occurred it would be a safety issue to the students but contained in the building. It would not be considered significant.

Naval Hospital Rota

The Hospital uses many different types of chemicals and gases. All chemicals are inventoried and kept in binders sorted by departments, and maintained with the Industrial Hygienists and Hospital's Safety office in Building 36. Any release would be contained within the building and not considered a significant release.

The Hospital has two underground tanks whose spill procedures are covered under site 17 (miscellaneous tanks).

Naval Security Group Activity (NSGA) and Naval Computer and Telecommunications area (NCTAMS)

Building 533 "Bull Ring" (NSGA), Building 8 (NCTAMS) and Building 1851 (SATCOM/NCTAMS) are secured areas that require special clearances for entry. Operations at NSGA have decreased and for purposes of this plan, neither site is considered a significant spill risk.

All three (3) areas have USTs that supply emergency generators and small above ground tanks for paper furnaces for classified material destruction. (See spill procedures addressed under miscellaneous tank section, Section 3.17.)

LOX Farm

Cryogenic (very cold) liquids of Nitrogen and Oxygen are stored in significant quantity and the LOX farm, located across from the dog kennels. A release of these substances would not be considered significant by definition but could cause some safety or fire fighting concerns as both substances support or enhance combustion. The tanks and operations are maintained by ROICC service contract. All nitrogen and oxygen is issued through CHRIMP.

PCBs (Polychlorinated Biphenyls)

Naval Base Rota is PCB free (i.e., no transformers). Small amounts of PCBs may occur through equipment disassembly/demilitarization at DRMO. Spill procedures addressed under site 12 (DRMO).

3.1 SITE 1
NEX Gas Station (Building 178)

3.1.1 General Information

Site 1 consists of a gas station and service bay run by the Navy Exchange. It is located across from the corner of Dalmau Street and Second Avenue. Vehicles receive unleaded fuel from four dispenser pumps on two islands in front of the building, and receive diesel and kerosene from two dispenser pumps on the east side of building. General vehicle maintenance is provided in the service bay. Located on the east side of the building are three USTs and one aboveground tank (AST) that store the fuel for the station. They are fueled approximately once a week from the asphalt fueling area directly in front of the tanks.

3.1.2 Spill Prediction

During normal business hours a significant gasoline spill would be a serious problem (See Worst-Case Scenario in Annex M). The NEX gas station is continuously manned during normal business hours 1000-1730.

Site 1 contains the following spill risks:

- Fuel transfer and dispensing
- Two 10,500-gallon double-walled USTs containing unleaded gasoline, Tanks 178.1 and 178.2. (Figure 3.1.1)
- 6,500-gallon double-walled UST containing diesel fuel, Tank 178.3
- 2,000-gallon double-walled AST containing kerosene fuel
- 1,320-gallon double-walled AST containing used oil and hydraulic fluid
- Four 55-gallon drums containing used oil and hydraulic fluid.

Possible causes of a spill include personnel error during transfer of fuels from tanker truck to USTs and the AST, or while using the dispenser pumps. Spills from both sources would not be contained and would flow across the asphalt onto the surrounding soil. The largest possible spill volume would be the volume of one of the USTs, 10,500 gallons, which should be contained in the double-wall of the tank. If this failed, the fuel would leak directly into the soil.

Spills occurring at the 2,000-gallon AST adjacent to the USTs on the east side of the building would flow over the asphalt paving and into the surrounding soil. A spill here is unlikely; the tank is double-walled and has a containment wall around it.

Spills occurring with the 1,320-gallon AST and four 55-gallon drums in the station service bay would be contained in the bay and would flow into the floor drain which runs to an Oily Water Separator (OWS) on the west side of the building. The AST is double walled, and a spill from it would be unlikely.

3.1.3 Storage

Gasoline and diesel fuel is stored in three double-walled (steel/fiberglass) USTs equipped with high-level alarms (90%), auto-shutoff alarms (95%), and liquid interstitial detection monitors. The underground fuel piping associated with the USTs is pressurized double-walled plastic piping with line leak detectors. There is an emergency shutoff switch located in the station office.

Kerosene is stored in a double-walled steel AST equipped with a high-level alarm and surrounded by a cinder block containment wall. Used oil and hydraulic fluid is kept in four 55-gallon drums and a pressurized double-walled AST.

There is one OWS located on the west side of the building just outside the service bay. All drains in the service station run to the OWS.

A Spill kit containing various absorbents is located in the station office.

3.1.4 Transfer

All transfers occur during normal daylight working hours 1000-1730. Fuel deliveries are by 35,000 liter (9200 gallon) tanker truck, typically about twice a week, using a Spanish firm called “Repsol” through a Navy Exchange (NEX) purchase order. No spill provisions are included in the purchase order.

Gasoline and diesel is transferred from tanker trucks to the USTs through covered fill ports that provide secondary containment that drains to the USTs. Fuel is transferred from the USTs to the fuel dispenser pumps through flexible plastic double-walled piping which is pressurized. The monitoring system for the USTs checks fuel level, gross volume, fuel temperature, and water level.

Kerosene is transferred from tanker trucks to the AST through covered fill ports. The fuel dispenser is located directly on the AST, and fuel is transferred through double-walled piping.

Used oil and hydraulic fluid from vehicle maintenance is collected in four 55-gallon drums, which when full are pumped into a 1,320-gallon AST. When the AST is full, a local contractor pumps the used oil out.

3.1.5 Containment

All ASTs and USTs are double walled. The kerosene AST has an additional cinder block containment wall surrounding it. All of the 55-gallon drums are located on spill trays.

3.1.6 Drainage Control

Spills and runoff from the asphalt and concrete surface around the ASTs, USTs, and fuel dispensers will flow south and pool along curbing and then out the two entrances of the station into the grassy drainage ditch along Dalmau Street.

3.1.7 Security

There is adequate lighting around the station and fueling dispensers to observe and respond to spills. The gas station is located on a secured fenced-in military base with security 24 hours a day for 365 days a year.

3.2 SITE 2
Public Works (Government Vehicles) Gas Station (Building 83)

3.2.1 General Information

Site 2 is located near the corner of Cabrera Street and Fifth Avenue adjacent to the Public Works transportation maintenance compound. The gas station is not manned, fuel is dispersed using an electronic fuel accounting system. Vehicles receive unleaded gasoline and diesel fuel from two dispenser pumps located on a fueling island in front of Building 83. Located directly in front of the building behind the pumps are two USTs that store the fuel for the station.

3.2.2 Spill Prediction

Site 2 contains the following spill risks:

- Two 10,000-gallon double-walled USTs containing unleaded gasoline and diesel fuel, Tanks 83.1 and 83.2. (Figure 3.2.1)

Possible causes of a spill include personnel error during transfer of fuels from a tanker truck to USTs, or while using the dispenser pumps. Spills from both sources would be contained within the concrete bermed fuel dispensing area. The largest possible spill volume would be the volume of one of the USTs, 10,000 gallons, which should be contained in the double wall of the tank. If this failed, the fuel would leak directly into the soil.

3.2.3 Storage

Unleaded gasoline and diesel fuel is stored in two double-walled (steel/plastic) USTs equipped with high-level alarms (90%), auto-shutoff alarms (95%), and vapor interstitial detection monitors. The underground fuel piping associated with the USTs is pressurized double-walled plastic piping with vapor interstitial detection monitors.

Emergency shutoff switches (two total) are located on respective pillars closest to the pumps (one for each pump) and in the station office.

There is one OWS located just north of the USTs. All drains at the bermed fuel dispensing area run to the OWS.

A Spill trailer containing various absorbents is located adjacent to the station office.

3.2.4 Transfer

Unleaded gasoline and diesel fuel is transferred from tanker trucks to the USTs through covered fill ports that provide secondary catchment that drain to the USTs. Fuel is transferred from the USTs to the fuel dispenser pumps through flexible plastic double-

walled pressurized piping. The monitoring system for the USTs checks fuel level, gross volume, fuel temperature, and water level.

The Repsol contractor fills the tanks weekly. Daily monitoring is performed by the fuels division.

3.2.5 Containment

Both USTs are double walled. The fuel dispensing area is bermed and has drains running to the OWS. The OWS flows to the sanitary sewers.

3.2.6 Drainage Control

Spills and runoff from the asphalt and concrete surface around the fuel dispensers and USTs would flow to drains and the OWS.

3.2.7 Security

There is adequate lighting around the station and fueling dispensers to observe and respond to spills. There is a lockable gated fence surrounding the gas station. The Service station is under constant surveillance using a video camera that is monitored 24 hours a day at Building 3141 (Fuels Dispatch). The gas station is located on a secured fenced-in military base with security 24 hours a day for 365 days a year.

3.3 SITE 3
Hazardous Minimization (HAZMIN) Center (Building 3157)

3.3.1 General Information

Located on Bonifaz Street near the corner of Fourth Avenue, the HAZMIN Center is the central repository of hazardous materials implementing the Naval Supply System's Consolidated Hazardous Materials Reutilization Inventory Management Program (CHRIMP).

The center consists of two office trailers, three storage buildings (Buildings 56,144, and 1855), six open air sheds (Buildings 184, 193, 194, 598, 3155 and 3156), eight hazardous material storage lockers and a storage yard. (Figure 3.3.1)

3.3.2 Spill Prediction

Spills most likely would occur during material handling operations (loading, unloading, stocking, issues, etc.). The majority of materials stored are cleaning compounds, paint, paint related materials, adhesives and sealing compounds.

High frequency issues at HAZMIN Center that may cause a significant spill are shown in the table below:

NSN	Chemical	RQ	Equivalent
6810005987316 6810009444129	Sodium Hypochlorite Solution	1000 lbs.	125 gallons
9150001178791 9150001497431 9150001497432 9150001594472 9150009857099 + Several others	Lube Oil Engine Hydraulic Fluid Hydraulic Fluid Lube Oil Lube Oil Aircraft	110 gal.	Two 55-gal. Drums
6810002499354	Sulfuric Acid	1000 lbs.	125 gallons

Lower frequency issues, with low reportable quantity (higher toxicity) that may cause a significant spill are shown in the table below (**any spill of these materials should be reported**):

NSN	Chemical	RQ	Equivalent
6840007823925	Diazonon[1]	1 lb.	1 pint – or ½ liter
6840008237849	Pyrethin[1]	1 lb.	1 pint – or ½ liter
6840011222651	Dursban[1]	1 lb. clorpyrifos	1 pint – or ½ liter
6810011200408	MEK peroxide	10 lbs.	1 gallon
6810009736472	Chloroform	10 lbs.	1 gallon
6810002424770	Calcium Hypochlorite Solid	10 lbs.	1 liter
8030014600246	Alodine 1132 (Chromic Acid)	10 lbs.	1 gallon

[1]May be stored at HAZMIN -- or Pest Control (Building 1865), see Site 13.

3.3.3 Storage

The largest single storage of flammable/combustible material (i.e., fire piles) are listed in the table below:

NSN	Material	Amount	Equivalent
6830014409903 6830014409978 6830014409892	Acetylene Gas Acetylene Gas Acetylene Gas	55 ea. - 40 CF 79 ea. - 10CF 23 ea. - 225CF	Total 245,000 lbs.
N/A	Used Oil	2 ea. – 750-gallon tanks	

Building 3157

No hazardous materials are stored in these trailers.

Building 1855 (CHRIMP)

This building is the main storage warehouse for new products including paints, thinners, POLs, batteries, varnishes, and various household and office cleaning supplies. Most of the materials are stored in consumer size containers, and no container larger than five gallons was observed. A small section of the south portion is set aside for corrosive materials. A spill kit was observed in this building.

Building 144

This building is presently empty except for a series of shelves and a container of miscellaneous waste and oily rags. A spill kit was observed in this building.

Building 56

This building is used for the consolidation and storage of recyclable waste materials including paints and POLs. A spill kit was observed in this building.

Delivery (loading/unloading) Area

Only temporary storage occurs in this area, and all materials are transferred to their appropriate designated storage areas as soon as possible.

Storage Sheds (Buildings 184, 193, 194, 598, 3155 and 3156)

Storage Sheds 194 and 598 were empty. Shed 184 contained compressed gas cylinders and miscellaneous hazardous waste, including printer cartridges, oily rags, and household items waiting for pickup by DRMO. Shed 193 contained waste paint cans, painting materials, waste adhesives, and drums of waste POLs. Shed 3155 contained empty drums, various compressed gas cylinders, and several bags of sodium

chloride. Shed 3156 contained drums of various POLs, including hydraulic and electric oil and several containers of paint.

Hazardous Materials Storage Lockers

Storage Locker 1 was empty; Lockers 2 and 5 contained oxidizing materials; and Lockers 3, 4, 7 and 8 contained miscellaneous flammable materials.

Storage Yard

The storage yard was empty with the exception of two flat racks used to store miscellaneous items, including POLs and other hazardous materials for emergency deployment by the Marine Corps.

3.3.4 Transfer

All materials are delivered and unloaded in the designated area outside of Building 1855. The materials are then segregated and transferred manually or by forklift to an appropriate location within the compound.

The sumps west of Building 1855 are pumped out by a contractor as needed.

3.3.5 Containment

Building 3157

No hazardous materials are stored in these trailers.

Building 1855 (CHRIMP)

Spills occurring in Building 1855 will flow into drains that lead to one of three underground sumps west of the building.

Building 144

No sumps or drains are located in this building. The structure provides a certain measure of containment, and all storage shelves provide spill containment.

Building 56

There are no sumps or drains in this building. The structure provides a certain measure of containment, and most drums and containers are stored on containment pallets.

Delivery (loading/unloading) Area

A small collection trench encloses this area and could be used to collect spills or releases; however, the trench is currently filled with gravel and dirt and would be ineffective if a spill was to occur. No containment is currently provided for this area.

Storage Sheds (Buildings 184, 193, 194, 598, 3155 and 3156)

With the exception of Shed 598, which is no longer used, each of the storage sheds is inside a bermed concrete containment area. The berms are provided with manually operated drainage valves, which were open during the site visit.

Hazardous Materials Storage Lockers

Each locker was secured and provides containment for spills or leaks.

Storage Yard

The storage yard was empty with the exception of two flat racks used to store miscellaneous materials, including POLs and other hazardous materials, for emergency deployment by the Marine Corps. These racks were covered with tarps, but no other containment is provided.

3.3.6 Drainage Control

Drainage from the specific buildings and storage sheds is discussed in the above sections. The perimeter of the compound provides no drainage control, and any material reaching the perimeter would flow off site.

3.3.7 Security

The HAZMIN Center is completely enclosed by an 8-ft. chain-link fence that is locked after operating hours. All gate locks are provided a seal to ensure no unauthorized entrance has occurred, and NAVSTA Rota security personnel conduct drive-by patrols at various times throughout the night.

Lighting is provided by lights mounted on top of Buildings 56, 144, and 1855 and is adequate to observe and respond to spills in and around the storage buildings.

3.4 SITE 4
Aviation Fuels and JP-8 Load Rack

3.4.1 General Information

The Aviation Fuels Branch is responsible for fueling all aircraft and for filling certain ASTs located at NAVSTA Rota. Aircraft are fueled by tanker trucks filled at the JP-8 loading rack or fueled directly from five (5) fueling ports located on the flightline using pantographs.

Historically, the JP-8 loading rack is the site of the largest land spills at NAVSTA Rota. A 2000-gallon spill occurred in January 2000 (personnel error), and a 5000-gallon spill occurred in February 1997 (system malfunction).

The load rack has been recently rebuilt and upgraded; it opened for use the summer of 2001. The system is equipped with many alarms and auto shutoff devices to prevent releases and fuel loss (summarized below). The site is manned 24 hrs/day 7 days a week in Building 3141 (Fuels Dispatch telephone extension # 4989).

Emergency Fuel Shutdown (ESD) stations are located at: 1) Apron, 2) Operating Storage Tank Pump Vault, 3) Mechanical Room, 4) Control Room, and 5) JP-8 load rack

Site 4 consists of the following:

- The JP-8 refueling loading rack near Building 84 (Figure 3.4.1)
- The Tanker Truck Parking Area (Figure 3.4.2)
- Two cut and cover day tanks and pump house located next to the tarmac (Figure 3.4.3)
- Fuel sample bottle draining table and UST 1521-1
- Five aircraft hydrant fueling ports located on the tarmac.

3.4.2 Spill Prediction

Spills would most likely occur at four different areas:

1) Operating Tanks (Building 3141). JP-8 only.

- Two (2) operating 400,000-gallon (cut and cover) field constructed underground tanks

- Building 3141 with three rooms: 1) dispatch/control room with alarm panels, 2) mechanical room with pumps (600 gpm) and filters, and 3) emergency generator room
- Fuel Drain System
- Leak Detection system.

Spills from tanks could occur from the pump vault room located on top of each tank. In the event of a leak, pumps will automatically shutoff when system pressure is less than 60 psi. Vault room is ventilated and equipped with an Emergency Fuel Shutdown (ESD) switch. Spills would remain contained in pump vault.

Both operating tanks are interconnected through a drain control system. This system takes suction off the bottom of each operating tank and pumps it into a separate (4000-gallon) underground drain tank located in front of Building 3141. The system's purpose is to re-circulate the fuel through the filters to remove water and recycles it back into the operating tanks.

The drain tank is equipped with a high and low-level alarm that disables the pump, an auto high-level shutoff valve when fuel reaches the fill line, and a leak detection alarm. Water has to be manually pumped from this tank when full. Spills from this system could occur during water transfer, filter changes or pump failure.

Spills in the mechanical room from pumps or filters would flow into floor drains that drain to a oil-water separator (OWS). No floor drains exist in the dispatch room or emergency generator room.

Operating tank overfill is unlikely, since system is redundantly protected with auto shutoff switches and high level alarms.

2) JP-8 Load Rack.

The load rack is located on sealed concrete with a perimeter drainage grate flowing into a 20-gpm (100-gallon capacity) OWS. Prior to the OWS there are two valves that direct flow into the OWS or to the environment. The OWS discharges to the environment.

Spills could occur from overfilling tanker trucks or system malfunction during fueling. Truck de-fueling does not occur at this area.

3) Fuel Truck Parking Apron.

Fuel is routinely sampled for quality and tested at Building 1521. Discarded samples are poured into a 1000-gallon underground storage tank using a fuel sample draining table located next to Building 1521.

There is a fuel truck wash rack that collects wash water into an OWS. The OWS drains to the sanitary sewer. Spills from trucks parked on the apron would puddle on the tarmac.

4) Flightline Fueling Ports.

System is fuel supply only. Pantographs are used to connect hydrant ports to aircraft. Aircraft de-fueling is performed by truck.

3.4.3 Storage

1) Fuel Tanks.

Overfill protection: Each 400,000-gallon tank is equipped with a visual and audible high-level alarm (90%) and a high-high alarm (95%). At the high-high level the alarm system automatically shuts down closing an inlet valve (with redundant controls solenoid operated and float switch) and shutting off the pumps.

Tanks are also equipped with low-level alarms (Min1 and Min2); pumps will not operate with an alarm condition.

All underground piping, diesel tank and drain tank are cathodically protected using an impressed current system. The cathodic protection system has a power supply trouble alarm.

2) Tanker Trucks.

Fuel is stored in 15 tanker trucks that are parked at the tanker truck parking area. These trucks can carry from 2,000 to 10,000 gallons of fuel. There are nine trucks carrying JP-8, two carrying MUR, two carrying F-76, one carrying JP-5, and one defuel truck.

3.4.4 Transfer

All fuel transfers are continuously manned operations.

1) Operating Tanks.

The hydrant system is filled from ready issue tank farm (Site 7) near the Navy Lodge. The ready issue tank farm motor control center (MCC) is electronically connected to hydrant system and will shutdown with an alarm condition.

Emergency diesel generator has a 160-gallon day tank supplied by a separate 2500-gallon underground tank. Day tank has overfill protection back to underground tank. Underground tank is equipped with leak detector probe.

2) Trucks.

Trucks are filled at JP-8 load rack. Fueling trucks are equipped with Sculley load anywhere overfill prevention monitors. There is visual indication of fuel issue and a hand-held auto shut-off “deadman” switch.

Aircraft fueling is performed using pantographs. Pantographs are tested daily (see inspections Volume 2).

During all aircraft fueling operations, a 2000-gallon vacuum truck is standing-by to respond to spills.

F-76 (Diesel), and JP-5 trucks are filled at JP-5/F-76 Load Rack (Site 5).

Gasoline trucks are fueled using Repsol Contract.

3.4.5 Containment

Both operating tanks are lined with a leak detection system. Tank leaks would drain into leak detection pit contained on the side of each tank. Pits are equipped with sensors to detect either water or fuel and alarm accordingly in the control room. Sumps are equipped with pumps and ventilation. The sumps are pumped into a 285-gallon (85 gpm) OWS located next to Building 3141. The OWS is equipped with a high oil level alarm and discharges directly to environment.

Underground (4000-gallon) drain tank and emergency generator (2500-gallon) underground tank are both double-walled steel tanks with leak detection probes.

Aboveground (160-gallon) diesel day tank has overfill protection.

The JP-8 load rack is on sealed concrete surrounded by a drainage grate flowing to an OWS. Sealed valve pit has to be manually emptied. Truck parking apron is not contained.

Hydrant pits are prefabricated fiberglass pits encased in concrete.

All supply piping is stainless steel, return piping is carbon steel. For added corrosion resistance, all tanks and piping are cathodically protected with an impressed current system. Loss of rectifier power will alarm the control room.

3.4.6 Drainage Control

Small spills at the JP-8 refueling loading rack should be contained on its concrete pad and then drain into a nearby OWS. Small spills at the day tank pump house would be contained in the building and drain to a nearby OWS.

In the event that a major spill occurred at the JP-8 refueling loading rack fuel dispensers or day tanks, the fuel would overwhelm the OWS systems. In which case the fuel would flow either north into a grassy drainage ditch, through a culvert under the service road and onto the flat land next to the runway, or south into a drainage ditch along Bonifaz Street. The ditch then turns north between the day tanks and the loading rack, through a culvert under the service road and onto the flat land next to the runway.

Small spills at the fuel sample bottle draining table would fall onto the small concrete slab on which the table is sitting. Spills would then flow onto the asphalt parking lot or onto the grass next to the slab. Spills can be contained with absorbent pads and sausages.

Spills at the five aircraft hydrant fueling ports would be contained in their valve pits or on the impervious concrete tarmac. Any spill at an aircraft fueling evolution on the tarmac can be contained with absorbent pads and sausages.

3.4.7 Security

Operating tanks (Building 3141) is manned 24 hrs/day, seven days a week. Security cameras are installed that watch the truck parking apron, JP-8 load rack and PW gas station. These cameras are monitored at Building 3141 and Building 590.

Aviation fuels is located on the flightline that has a electronically controlled security gate requiring special clearance for access.

3.5 SITE 5
Booster Pump House Tanks, JP-5/F-76 Load Rack, and OWS

3.5.1 General Information

The Fuel Department maintains control of the Booster Pump House Complex located a short distance from the base of Pier III on the Bay of Cadiz. There are no pumps located here, except for small stripping (transfer) pumps. Large pumps were previously located here to transfer fuel from Rota to Zaragoza using the inter-Spain pipeline; this is no longer done by the U.S. Navy, but the name remains.

Site 5 consists of the following:

- Eleven ASTs used for storage of JP-5, JP-8, F-76, ballast water storage, and slop oil located on the east side of the Pier III access road
- Three ASTs containing F-76 located on the west side of the Pier III access road
- A large, manually operated oily water separator
- The Booster Pump House manifold system and underground pipelines
- The JP-5/F-76 Tanker Truck Loading Facility
- Pipelines crossing the nearby Rio Salado.

The tanks are used for stripping (transfer) volume to vacate pipelines as needed, and to supply the JP-5/F-76 (Diesel) load rack. They are also used for de-fueling volume and for oily waste treatment and storage.

The manual OWS system (rated at 500 gpm) sends recovered oil into slop oil Tank 212, and the water is transferred to the nearby Rio Salado.

A complex underground piping system connects the tanks at the Booster Pump House Facility with Piers I, II, and III and the cut and cover ASTs at the bulk fuel storage area.

3.5.2 Spill Prediction

Because of the close proximity to the Rio Salado (Salty River), any significant spill at this site could reach the river, and depending on the direction of the tide, either go upstream or downstream into the Bay of Cadiz. The nature and frequency of operations (petroleum transfers and storage) and close proximity to Rio Salado makes this area NAVSTA Rota's most probable spill risk.

Site 5 contains the following spill risks:

- The ASTs could be overfilled and cause fuel to flow into their berms. (Figure 3.5.1)

- Tank ruptures that could cause the ASTs to overflow their berms.

- AST 209's berm is filled with penetrations for the eight tanks in the tank farm. The potential exists for the seals at these penetrations to leak, allowing fuel to flow from the berm instead of staying within it.

- Transfer operations between Slop Tank 212 and Ballast Tanks 209 and 210 are conducted, using an air operated diaphragm pump and portable rubber hoses, and could cause a spill should the pumping operation be left unattended and a leak occurs.

- The OWS could create an oil spill if it were allowed to overflow. This is a manual operation that requires careful monitoring.

- The Booster Pump manifold pit contains many large pipelines and valves and has several pipeline penetrations that are not watertight.

- There are several other small valve pits with dirt floors located at the complex. The valves and pipelines could develop leaks.

- Operator error or equipment failure at the JP5/F76 Refueling Loading Rack could cause a spill.

- Seven pipelines are exposed while they cross the nearby Rio Salado. A leak here would go directly into the river.

In the event that the containment berm was overwhelmed, the overflow from the ASTs on the east side of the Pier III service road would either travel to the east and spill into the Rio Salado or travel south and spill directly into the Bay of Cadiz at the Naval basin. Overflows from the three ASTs on the west side of the Pier III service road would travel to the south and spill directly into the Bay of Cadiz. Leaks from tank bottoms would go directly into the soil and reach the water table.

The pipelines for Tanks 203 through 210 penetrate Tank 209's containment structure. Whenever penetrations are placed through the side of a berm, the potential exists for fuel to leak out of the berm in a catastrophic event. Spills from this area would travel southeast and flow into the Rio Salado.

The OWS is a large open topped concrete berm with many baffles to separate the oil from the water, and it has a manually operated skimming apparatus to capture the oil so that it can be placed in a slop tank. In the event of a heavy rain, the OWS could overflow and send oily water eastward into the Rio Salado. If a tank overflowed or ruptured and the berm drains were not shut, it would also be possible for the OWS to be

inundated with fuel. The fuel would displace the water in the OWS and then run unabated into the Rio Salado.

The Booster Pump manifold pit contains many large pipelines and valves, all of which are subject to failure. An equipment failure in the pit would sink through the dirt floor and reach the water table. Should the level of fuel rise to a high enough level, fuel would travel along the openings for the pipelines and contaminate a large amount of soil. It is conceivable that the fuel could migrate all the way to the fuel pier and enter the Bay of Cadiz relatively unabated.

Possible causes of a spill at the JP-5/F-76 Refueling Loading Rack include personnel error during transfer of fuels from the loading rack to the tanker truck. A Scully sensor system will prohibit fuel flow to trucks that are not grounded and prevent overfilling of the truck. Small spills would be contained at the truck loading rack and would flow into a sump. The pump in the sump would then automatically turn on and direct the flow into the OWS.

If the loading hose were to rupture, fuel could spray out beyond the containment area and would flow across the asphalt onto the surrounding soil. A large enough spill could travel east around the tank berms and possibly reach the nearby Rio Salado. The pipelines at the river crossing are vulnerable to external damage caused by collisions with small boats on the river and car accidents from nearby Alicante Lane. There is also a high potential for corrosion at the soil/air interfaces and should be checked regularly.

3.5.3 Storage

The following storage capacities are available on the east side of the service road:

- JP-5 13,000 bbls.
- F-76 10,000 bbls.
- JP-8 3,000 bbls.
- Waste oil 500 bbls. (Slop tank)
- Waste oil 40,000 bbls. (Ballast water)

There is 15,000 bbls. of F-76 capacity on the west side of the service road.

All tanks are provided with adequately sized secondary containment and are equipped with high-level and high-high level alarms, both visual and audible using the ATG system.

3.5.4 Transfer

Fuel is transferred from Pier III to the pipeline manifold pit. From there, it can be diverted into the Booster Pump House ASTs or bypass them and be sent directly to the Bulk Fuel Farm. Fuel can also be directed to the fuel piers from the Booster Pump House AST or from the Bulk Fuel Farm.

All truck fueling occurs at the JP-5/F-76 load rack through two pipe flanges connected to Tanks 207 and 208. Fuel is then issued to tanker trucks that deliver the fuel to aircraft or to small tanks located throughout the base. Truck defueling also occurs at the JP-5/ F-76 load rack.

The capability exists to transfer ballast water from Pier III; this function is not performed. Vessel's oily waste is currently removed by NRCC contract (see Transfer Section Site 11 Port Operations).

Water from all the tank bottoms drain to the OWS for processing via the berm drainage system.

Waste oil that contains some water is offloaded from trucks into slop Tank 212. Water from Tank 212 is drained to OWS; separated oil/fuel is then transferred to tanks 209 and 210 using a diaphragm pump.

3.5.5 Containment

All of the AST containment berms and dikes have been lined with concrete and sealed. The secondary containment area around Tank 210 is the only epoxy-lined cell in the tank farm. There is a warning sign that reads "Danger Contains Tetraethyl Lead" in both English and Spanish.

There is a secondary containment pad with a hose rack on the west side of the Booster Pump House near slop Tank 212. Vehicles use this pad when offloading waste oil into the slop tank.

All underground piping is coated with continuously extruded polyethylene coating.

For corrosion resistance all pipes and tanks are cathodically protected with an impressed current system.

3.5.6 Drainage Control

The drainage from all 14 of the ASTs are contained in concrete secondary containment structures. The containment berms direct fluids to the OWS that drains into the Rio Salado through the storm drain outfall. The AST berm drains are configured in such a manner that the berms can be drained either to the OWS or directly onto the ground. The drain valves are required to be locked in accordance with Chapter 9 of the Final Governing Standards (FGS).

3.5.7 Security

There is adequate lighting around the tanks at the Booster Pump House complex to observe and respond to spills. The complex is located on a secured, fenced-in military base with security 24 hours a day for 365 days a year.

Both the east and west side of the Booster Pump House Complex and their associated storage facilities are completely surrounded by a chain link fence with barbed wire and locked entrance gates. The facilities are locked after operating hours and when not in use. Naval Station Rota Security does not have access to the facility after operating hours. However, NAVSTA Rota Security performs 24-hour drive-by security patrols.

Signs have been posted at all facility entrance gates stating "UNAUTHORIZED PERSONNEL STAY OUT" and “NO SMOKING” in both English and Spanish.

3.6 SITE 6
Bulk Fuel Farm and Ready Issue Tank Farm

3.6.1 General Information

Site 6 consists of the following:

- The Bulk Fuel Farm with 28 large cut and cover ASTs containing JP-5, JP-8, and F-76, their associated pumps, pipelines, and OWSs, and one small UST. The Bulk Fuel Farm is used to store the majority of fuel at NAVSTA Rota.

- The Ready Issue Tank Farm with six cut and cover ASTs with associated pumps, pipelines, and OWSs. The Ready Issue Tank Farm is used as interim storage to provide JP-8 to the day tanks for issue to aircraft at the flight line.

3.6.2 Spill Prediction

Site 6 contains the following spill risks:

- All of the ASTs at both the Bulk Fuel Farm and the Ready Issue Tank Farm could be overfilled and cause fuel to flow onto the ground. (Figures 3.6.1 & 3.6.2).

- All of the tanks could develop leaks that are not visible that would soak into the ground.

- The UST at Building 600 could overflow or develop a leak that would not be detectable. (Figure 3.6.3)

- The associated pipelines, pumps, and OWSs at both the Bulk Fuel Farm and the Ready Issue Tank Farm are susceptible to equipment failure.

Spills from the cut and cover tanks and associated pipeline system at both the Bulk Fuel Farm and the Ready Issue Tank Farm would drain into the soil and groundwater. Spill from the UST at the Bulk Fuel Farm would soak into the soil and groundwater. Leaks and spills may be detected visually, through the use of an Automatic tank gauging (ATG) system (installed in 2000) that is monitored at the Bulk Fuel Farm administration office, with POL accounting practices, or through monthly groundwater sampling. Spills may be temporarily contained in valve pits or drainage ditches. Spill kits and cleanup equipment are located at the Bulk Fuel Farm.

3.6.3 Storage

There are a total of 28 bulk storage, cut and cover underground tanks. Five (Tanks 14-18) are 12,000 barrels each. Twenty-three (23) are 46,000 barrels each. All bulk storage tanks are equipped with high-level and high-high level audible and visual alarms.

Six 5000-barrel, cut and cover underground ready issue tanks are electronically connected to hydrant fuel system (Site 4). The tanks have high-level and high-high level alarm systems. The high-high level condition automatically closes a solenoid operated fill valve.

Building 600 (UST 600.2) is a 1000-gallon double walled fiberglass tank equipped with automatic veeder-root level detection system with a high-level alarm and interstitial monitor.

3.6.4 Transfer

Fuel is received at Pier III from tankers and/or barges. The fuel is then transferred in underground pipelines from Pier III to the Bulk Fuel Farm via the pipeline manifold system at the Booster Pump House Complex. Fuel can also be delivered to all three fuel piers from the Bulk Fuel Farm.

JP-8 jet fuel is transferred via a 6-inch buried pipeline from the Bulk Fuel Farm to the Ready Issue Tanks. Fuel is then transferred from the Ready Issue Tanks to the day tanks via two six-inch buried pipelines.

Water from all the tank bottoms will drain to the associated OWS where it will either be removed by a vacuum truck and then processed at the slop tank and OWS at the Booster Pump House Complex or, if clean, allowed to drain onto the ground.

All transfers are manned operations; one man at the tank and one at the issue or receipt points. They are in constant radio communication with each other.

Majority of fuel transfers occur from Pier 3 (Site 11), but may occur using inter-Spain pipeline that connects Pier 3 to Zaragoza, operated by CLH (Spanish Petroleum Transport Agency).

3.6.5 Containment

None of the single-walled steel cut and cover ASTs at the Bulk Fuel Farm or the Ready Issue Tank Farm have secondary containment. The valve pits have dirt floors that will help to keep any fuel spilled in the pits from spreading, but it will soak into the ground and could reach ground water.

The majority of underground fuel piping is coated with continuously extruded polyethylene coating. For corrosion resistance, all pipes and tanks are cathodically protected with an impressed current system.

The UST at Building 600 is a double-walled fiberglass tank.

3.6.6 Drainage Control

Bulk Fuel Farm

All bulk storage tanks are lined with a sub-drainage system. This system collects condensation or tank leakage mid level and diverts it to the storm drainage system. Each tank is equipped with an inspection manhole. Any bulk storage tank leaks would be caught by this system.

Spills from overflows at the cut and cover ASTs at the Bulk Fuel Farm would travel down hill from the tank tops. The direction the fuel would take would depend on the tank from which the spill was occurring.

In general, spills that flowed from the tanks on the north side of the tank farm would reach drainage ditches next to the roads between the tanks or on the south side of Santa Maria Street. It is important to note that there are culverts that go underneath Santa Maria Street that can be used as choke points to stop the fuel flow. If fuel were to travel to the north side of Santa Maria Street, it would still be in a flat grassy area or a long drainage ditch that has a culvert going underneath a railroad track. The railroad track would act as a dam as long as the culvert was blocked off. Beyond the railroad track is the base fence line and another drainage ditch along side an off-base road.

Spills that flowed from the tanks on the east end of the tank farm would more than likely cross the dirt perimeter road and flow towards the Spanish military housing on the south side of the tank farm. Spills that flowed from the tanks on the south side of the tank farm would be diverted somewhat by El Camino Real Road, but would eventually flow towards the Spanish military housing on the south side of the tank farm.

Spills from the Tank 3 on the west end of the tank farm would either flow towards the Spanish military housing on the south side of the tank farm or flow north towards the fuel department buildings. The other tanks on the west end of the tank farm would also flow towards the north, towards the drainage ditch along Santa Maria Street. It is also possible that the fuel could cross Santa Maria Street and flow directly into the fuel department parking areas and buildings.

Fortunately, the U.S. military housing located on the west end of the fuel farm would not be impacted by the flow of fuel. However, consideration will need to be given to the wind direction, since fuel fumes could reach both the Spanish and U.S. military housing units.

UST 600.2 is located in a high traffic area. It is used to discharge small volume samples and could be overfilled if high-level alarm is ignored. Spills from the UST at Building 600 would flow north towards the drainage ditch along Alicante Lane and go through a culvert under the road and onto the grassy area north of the road.

Ready Issue Tank Farm

The ready issue tanks do not have a sub-drainage system but have auto shutoff valves on each fill inlet. Tank bottom drains are diverted to aboveground “bathtub style” oil-water separators.

Any significant spill from the southwest side of the Ready Issue Tank Farm would flow down the hill from the tank tops through the grassy field and reach a culvert that goes under Flor Street. If it gets past this choke point, the fuel would reach the golf course on the south side of the street. Spills from the northwest side would reach trees and grass and eventually flow towards the ball fields to the north or the parking lot to the east. In any event, drainage ditches could be utilized to contain and collect the fuel.

Storm drainage system from CLH facility located next to Tank 123 drains to NAVSTA property.

3.6.7 Security

There is adequate lighting around the Bulk Fuel Farm and the Ready Issue Tank Farm to observe and respond to spills. Bulk and ready issue tanks are in separate fenced-off facilities, locked after business hours.

Both fuel complexes are located on a secured, fenced-in military base with security 24 hours a day for 365 days a year.

3.7 SITE 7
VQ-2 Squadron Operations (Building 5)

3.7.1 General Information

Site 7 consists of a large aircraft maintenance facility. It is located near the intersection of First Avenue and Bonifaz Street on the flight line apron. VQ-2 Squadron operations provide general aircraft support and maintenance to the squadrons EP-3E Aries II planes.

3.7.2 Spill Prediction

Site 7 contains the following spill risks:

- Spills to hanger floor during engine maintenance
- 1,320-gallon double-walled AST containing used oil and hydraulic fluid (Figure 3.7.1)
- Hazardous waste accumulation point (Figure 3.7.1).

The largest possible spill volume would be the volume of the AST, 1,320 gallons. Such a spill would be unlikely due to the double-walled construction of the tank. Any spill would flow towards nearby drains that in turn lead to two large OWSs west of the squadron's hangar.

Another potential spill source is the HW accumulation point located in a secure self-contained storage locker adjacent to Building 1678. A spill here would be contained within the locker's secondary containment.

3.7.3 Storage

Used oil and hydraulic fluid is stored in a steel double-walled AST.

Various corrosives, solvents, batteries, acids, and POLs from maintenance work on planes are stored in the HW accumulation point. There are approximately seventeen 55-gallon drums located within the storage locker.

Spill kits, emergency showers, and eyewashes are located in the VQ-2 hangar and next to the HW accumulation point.

3.7.4 Transfer

Used oil and hydraulic fluid from aircraft maintenance is collected and hand poured through a funnel into the 1,320-gallon AST. When the AST is full, a local contractor pumps the used oil out. HW at the accumulation point is routinely kept for 90 days and then is delivered to the DRMO.

3.7.5 Containment

The AST is a double-walled steel tank. The HW storage locker has built-in secondary containment consisting of a steel-grating floor over a large spill catchments area. In addition all HW containers are located on spill trays.

3.7.6 Drainage Control

Two OWSs are located west of the VQ-2 maintenance facility adjacent to Buildings 1678 and 211. Drains from the VQ-2 hangar and the plane washing area (located in front of Building 1678) drain to both OWSs. The OWS nearest Building 1678 was recently constructed to handle this drainage. A diverter valve controlling where the drainage flows has been installed to divert flow to the newer of the OWSs. This OWS is connected to the base's sanitary sewer system. The older OWS is not connected to this sewer system and overflowed to a storm water drainage ditch.

Spills and runoff from the concrete flight line around the AST would flow west into adjacent drains and onto the OWSs. Spills within the HW storage locker would be contained within the structure. Spill resulting from the overflow of the older OWSs would drain into the storm water ditch and off the base.

3.7.7 Security

VQ-2 operations are located on a secure flight line. Access is restricted, and the area is protected by fencing. Entrance is controlled at all times by an electronic security gate that requires a security pass card. Security personnel regularly patrol the flight line. Buildings are locked after hours. The area had adequate lighting.

3.8 SITE 8
AIMD (Buildings 1800, 1801, 211, 5 and 133)

3.8.1 General Information

Site 8 consists of multiple buildings that make up the Aircraft Intermediate Maintenance Department (AIMD). AIMD provides various maintenance services to Navy aircraft and is composed of five different divisions each tasked with different maintenance responsibilities. The divisions and their responsibilities are:

- Division 400: Engines
- Division 500: Paint shop, tire shop, nondestructive inspections, and hydraulic shop
- Division 600: Avionics, electronics, and batteries
- Division 800: Life support systems and compressed gas
- Division 900: Support equipment, paint shop, and blast (sand) shop.

Buildings 1800 and 1801 are used for jet engine repair and testing, respectively, and are located off the west end of Cabrera Street. Buildings 211, 5 and 133 consisting of equipment support, avionics, soldering, and battery shops are located on the flight line.

3.8.2 Spill Prediction

Site 8 contains the following spill risks:

- 1,000-gallon double-walled AST containing diesel fuel, Building 1800 (Figure 3.8.1)
- HW accumulation point, Building 1800 (Figure 3.8.2)
- 12,000-gallon double-walled UST, Tank 1801.1, containing JP-5, Building 1801 (Figure 3.8.3)
- OWS located at jet engine test facility, Building 1801
- Four 55-gallon drums containing oil and lubricants, Building 211.

Possible causes of a spill include errors or failures during fueling of the 1,000-gallon AST outside of Building 1800 or failure of AST itself. Spills from this tank, though unlikely because of its double-walled construction, would flow south into nearby soil and vegetation.

The HW accumulation point located outside the southeast corner of Building 1800 consists of a fenced concrete compound and small storage sheds. A spill here would not be contained and would flow west into a grove of Eucalyptus trees.

The largest possible spill volume would be the volume of the UST, 12,000 gallons at the jet engine test facility. Such a spill would be unlikely due to the double-walled construction of the tank. If this failed, the fuel would leak directly into the soil. More likely spill causes include: errors or failures during transfer of fuel from tanker truck to UST; failure in the pipeline that feeds JP-8 to the jet engine test cell; or an equipment malfunction during operation of the test cell. Spills occurring during fueling of the UST would not be contained and would flow partially into an OWS and north towards soil and vegetation. A spill in the test cell would collect in the sump tank and be contained within the cell.

The OWS outside the jet engine test cell is a spill risk. Fuel is pumped into the test facility during an engine test; some fuel spills into a collection sump tank. After each jet engine test, the facility is washed down, and fuel and water from the test cell drains into the OWS which can then overflow. Any such overflow would flow north towards soil and a wetland area.

Other spill sources are the four 55-gallon drums in the maintenance bay of Building 211. Although located on spill trays, a spill here involving all four drums would not be contained and would flow to the drain in the center of the building which flows to an OWS outside the building.

3.8.3 Storage

Diesel is stored in the steel double-walled AST located outside Building 1800. The fuel is used to run the building's fire suppression system. The AST has a high level alarm and is surrounded with steel crash posts.

Various corrosives, solvents, batteries, acids, and POLs from maintenance work on planes are stored in the HW accumulation point. There are approximately twenty 55-gallon drums containing the above materials within the compound.

Tank 1801.1 is a 12,000-gallon steel double-walled UST equipped with high-level alarm (90%), auto shut-off (95%), and an interstitial spacing leak detection system. The tank is also equipped with a spill containment catch basin.

Oil and hydraulic fluid is stored in four 55-gallon drums.

Spill kits and fire extinguishers are located at every building. Emergency showers and eyewashes are located at Buildings 1800 and 211.

3.8.4 Transfer

Diesel fuel is transferred to the 1,000-gallon AST from a tanker truck through a flexible rubber hose. Fuel is transferred from the AST to Building 1800 through double-walled pressurized plastic piping.

JP-8 is transferred to the 12,000-gallon UST from a tanker truck. Fuel is then piped from the UST to the jet engine test cell through aboveground steel suction piping.

3.8.5 Containment

The AST and UST are both double-walled steel tanks. The HW accumulation point has three flammable storage lockers with built-in containment, and most of the 55-gallon drums are all located on spill trays. The four drums located at Building 211 were located on spill trays.

3.8.6 Drainage Control

Building 1800 has three oil-water separators (OWS) that collect drainage from floor drains, process tanks and paint booth. Two (2) OWS collect the majority of the building floor drainage and flow to the sanitary sewer. One OWS collects drainage from the outdoor drainage grate and engine maintenance pit and drains to the storm sewer system.

Building 1801 (Jet Engine Test Cell) has a direct fuel connection fed from UST 1801.1. The test cell drains to an OWS located next to the building which in turn is connected to a sanitary sewer.

Drainage at the AST slopes to the south towards nearby vegetation. Drainage at the HW accumulation point is towards the west down to a Eucalyptus grove. Drainage at the jet test cell, including the UST and OWS, is towards the north into nearby soil and vegetation. Drainage at the maintenance facility in Building 211 is towards the center floor drain.

3.8.7 Security

All of the AIMD buildings are located on a secured, fenced-in military base with security 24 hours a day for 365 days a year. In addition, Buildings 211, 5, and 133 are located on the flight line where access is restricted and entrance is controlled at all times by an electronic security gate that requires a security pass card. Security personnel regularly patrol the flight line. Buildings are locked after hours. All areas have adequate lighting.

3.9 SITE 9
PUBLIC WORKS POWER PLANT

3.9.1 General Information

This area houses Public Works Utilities (PWU) branch:

The Power Plant (Bldg. 64) performs three functions for NAVSTA Rota:

1. Converts 220 volt 50 hz electricity received from Spanish Power Company (Seviano) to 110-120 volt 60 hz for use on base.

2. Provides hot water to NAVSTA Rota for heat and steam.

3. Provides make-up and emergency power using eight Mobile Utility Systems Equipment (MUSE) generators and various other smaller portable electrical generators.

The power plant is manned 24 hours a day, seven days a week. Watch standers take hourly logs on equipment and conditions.

There is an EPA-certified water analytical laboratory in Building 1545 for drinking and boiler water chemistry.

The line crews for servicing high power lines, transformers and equipment are based in Building 536. The water crew/sewer maintenance branch is in Building 517.

3.9.2 Spill Prediction

Site 9 contains the following spill risks:

- All of the ASTs at the Power Plant Facility could be overfilled or leak and cause fuel to flow into their berms, or for the two ASTs without berms, flow onto the ground. (Figure 3.9.1)

- The associated pipelines, pumps, and OWS for the Power Plant ASTs are susceptible to equipment failure and could leak.

- Tanks 123 and 124 are 66,000-gallon tanks that are surface-mounted tanks and could develop leaks that are not visible.

- Tanks 123 and 124 share a common containment berm that has a gravel floor. The gravel floor has a fuel resistant liner installed beneath, which will prevent fuel from soaking in.

- There is a wall-mounted steel cylindrical tank inside Building 64 that does not have a containment berm. Spills from this approximate 100-gallon tank would land on the concrete floor.

- The 1,000-gallon convault diesel tank near Building 536 has a hand-operated dispenser nozzle that is used to refuel portable equipment. Small spills can occur during the equipment refueling operations. This tank has its own integral secondary containment system built in and does not sit inside a berm. Spills would fall directly onto the asphalt pavement on which the tank is sitting.

- The pressure washer behind Building 536 could wash oily residue off equipment. The residue would hit the asphalt and flow into a nearby storm drain and onto the OWS.

- The 700-gallon, trailer-mounted diesel tank for the portable boiler does not have secondary containment. Spills from this tank would hit the asphalt and flow south to a nearby storm drain and onto the OWS.

- Spills may occur in valve pits for JP-5 transfers.

3.9.3 Storage

The 20 steel ASTs at the Power Plant Facility range in size from a 100-gallon process tank to the two 66,000-gallon diesel fuel tanks. The ASTs contain JP-5, F-76, lube oil, and waste oil.

In front of Building 64 are:

- Four JP-5 tanks, ranging in size from 3,000 gallons to 9,500 gallons
- A 2,500-gallon lube oil tank
- A 700-gallon tank for recycled waste oil.

Inside Building 64 are:

- Two 375-gallon lube oil tanks
- A 986-gallon lube oil tank
- Two 792-gallon JP-5 tanks
- A small approximate 100-gallon indoor, wall-mounted process tank for diesel, gas, and oil.

Behind Building 64 are:

- Two large 66,000-gallon F-76 fuel tanks
- Two large 25,000-gallon JP-5 tanks
- An approximate 700-gallon, trailer-mounted diesel tank that supports a portable boiler

- A 1,000-gallon convault diesel tank used to refuel portable equipment
- A 500-gallon recycled waste oil tank
- A 375-gallon heating oil tank.

The 66,000-gallon tanks supply diesel fuel to the hot water boilers and are numbered 123 and 124. Tanks 123 and 124 have visual and audible high-level alarm (95%), high-high level alarm (98%), and a low-level alarm (5%). Tanks have a remotely operated fill valves that automatically shuts with a high-level alarm condition. Tanks are monitored using a panel inside Building 64 called MCCP (Alzado de Cuardo de Control de Combustion Municipal) and CP2.

The 25,000-tanks automatically supply the 792 gallon day tanks inside Building 64 that in turn supply the two diesel generators with JP-5. The 25,000-gallon tanks are numbered 1 and 2, and the 792 tanks are numbered 3 and 4. All four tanks have visual and audible high and low-level alarms using a veeder-root monitoring system inside Building 64.

3.9.4 Transfer

All tanks have visual level indication.

JP-5 is supplied hard-line, through an underground pipeline, from the Fuel Farm to Tanks 1 and 2, 1551, and Tanks A, B, C. There are two separate valve pits in front of Building 64; one pit supplies the front tanks, the other pit directs flow to the tanks behind Building 64.

Diesel (F-76) is supplied to Tanks 123 and 124 with a hard-line through a separate underground pipeline that penetrates the berm.

Tanks 1, 2, 3 and 4 are equipped with float operated overfill shutoff valves. Tanks 3 and 4 are supplied from Tanks 1 and 2. The transfer pumps automatically shuts off with a high-level alarm on Tanks 3 and 4.

Tanks 1 and 2 are inter-connected to Tanks 123 and 124; fuel may be transferred either direction.

Tank 1551 has a float operated overfill shutoff valve.

Tanks A, B, and C do not have overfill protection.

3.9.5 Containment

Seventeen of the ASTs have concrete secondary containment berms. One AST is a convault tank with its own integral secondary containment system built in. One tank is a small, 100-gallon, indoor wall-mounted process tank that does not have a containment

berm, and one tank is part of a portable boiler system located on a trailer and does not have any secondary containment.

Tanks 123 and 124 share a common containment berm with a crushed stone cover. Beneath the crushed stone top soil is a fuel resistant liner of reinforced poly-base fiber with an ethylene inter-polymer alloy (EIA) coating minimum of 1mm thickness provided with heat welded seams. The drains inside this berm are normally locked shut. A spill in this area would collect in the containment berm.

The two 25,000-gallon JP-5 tanks share a common containment berm of sealed (impervious) concrete. The drains inside this berm are normally locked shut.

The containment berms for the tanks in front of Building 64 have drain valves on them that would allow the fluid to drain onto the ground. Tanks A, B, and C share a common containment berm. The other three tanks also share a separate berm.

3.9.6 Drainage Control

The Public Works Power Plant is located about 200 feet from the Bay of Cadiz. Should any outside berm rupture or be allowed to overflow, the fuel would quickly flow between Building 64 and the other buildings at the power plant and then flow downhill to the south or southeast and directly into the Bay of Cadiz. Should an overflow occur inside Building 64, the fuel would flow to the nearest floor drain and then to the nearby OWS.

The berm for Tanks 123 and 124 drains to two grates that are piped to a manhole where they can be isolated with a manually operated shutoff valve. The berm for Tanks 1 and 2 drains to a sump in the berm through an underground pipe to the same manhole with shutoff valve. When the valve is opened, fluid will flow to the OWS system.

Tank 1551 and lube oil tank share the same berm. Tanks A, B, C share the same berm. Both berms have drainage valves that, when opened, drain to the storm water system.

Storm drain behind Building 536 is used for equipment wash-down and flows to the manhole where it can be isolated with a manually operated shutoff valve.

The OWS is automatically pump lifted to the sanitary sewer system.

3.9.7 Security

There is adequate lighting around the Public Works Power Plant to observe and respond to spills. The Public Works Power Plant is located on a secured, fenced-in, military base with security 24 hours a day for 365 days a year.

The Power Plant is surrounded by a security fence that is locked after normal operating hours. The fence contains electronic gate access for vehicles at the service vehicle entrance gate that automatically closes behind each vehicle. The gate for personnel at the Privately Owned Vehicle (POV) parking lot is usually left partially open during normal work hours. It is closed after hours, and visitors must be "buzzed " in. Power Plant operations are round-the-clock. After normal working hours, shift personnel perform walk-through inspections.

Drive-by security patrols are performed by the NAVSTA Rota Security Department on a 24-hour basis.

3.10 SITE 10
PUBLIC WORKS TRANSPORTATION MAINTENANCE

3.10.1 General Information

Naval Station Rota's Public Works (PW) Transportation Department is responsible for maintenance of all the government vehicles on base. There are two different locations involved in this function, Building 264 and Building 148.

Site 10 includes the following:

- The PW Transportation and Maintenance Center located in Building 148 services and maintains all government vehicles other than fueling trucks.
- The high-pressure water wash rack north of Building 148.
- The OWS north of Building 148.
- The Fuel Truck Maintenance Area with an OWS located at Building 264.

3.10.2 Spill Prediction

Site 10 contains the following spill risks:

- Spills could occur at the PW Transportation and Maintenance Center during vehicle maintenance, causing fuel or oil to fall onto the ground. (Figure 3.10.1)
- Oily residue could be washed off of vehicles and equipment during cleaning operations at the high-pressure water wash rack.
- Spills could occur at the Aviation Truck Maintenance Area during vehicle maintenance, causing fuel or oil to fall onto the ground. (Figure 3.10.2)

3.10.3 Storage

The PW Transportation and Maintenance Center has a 5,000-liter AST located next to Building 148 that used oil is collected in for recycling. There is a collection system inside Building 148 that pumps the waste oil into the AST. Drums of lube oil are stored inside Buildings 148 and 264. POL contaminated material is staged for pick-up on the west side of Building 148.

There is a 4,000-gallon UST at Building 264 that is part of the OWS collection system.

3.10.4 Transfer

Since these are maintenance sites, there is no transfer of fuel to or from the facilities other than to empty the recycling AST and OWSs and their associated tanks with a vacuum truck.

3.10.5 Containment

The recycling oil AST at the PW Transportation and Maintenance Center is a double-walled steel tank.

The high-pressure water wash rack has a containment curb built around it.

Lube oil and antifreeze drums located inside the buildings sit on containment pallets. The waste POL drums staged for pickup outside of Building 148 sit on wooden pallets.

The Aviation Truck Maintenance Area has a sloped concrete containment area that drains to an OWS.

3.10.6 Drainage Control

Building 148 has an OWS for the high pressure cleaning rack which has a two-stage system consisting of a two-section grit chamber (13 cm, about 3400 gallons) and an OWS. Solids settle in the grit chamber allowing relatively clean fluid to flow to the OWS; this is then gravity feed to the sanitary sewer. (Figure 3.10.1)

A smaller OWS exists next to Building 148 for vehicle washing; this drains to the sanitary sewer.

Building 264 has an OWS system consisting of a drainage grate, a 4000-gallon UST, a three-way valve, and an OWS. The valve needs to be manually positioned to direct flow to the UST when fuel trucks are drained for maintenance. The alternate position is to direct flow through the OWS to the sanitary sewer. (Figure 3.10.2).

No floor drains were noted in building 148 or 264.

Spills in the vehicle storage area would flow to a perimeter ditch for storm drainage.

3.10.7 Security

There is adequate lighting around both of the Public Works Transportation Department maintenance sites to observe and respond to spills. The Public Works Transportation Department maintenance sites are within fenced-in compounds located on a secured, fenced-in military base with security 24 hours a day for 365 days a year.

3.11 SITE 11
PORT OPERATIONS INCLUDING PIERS 1, 2 AND 3

3.11.1 General Information

The port of Naval Base Rota is controlled by the Spanish Navy. The U.S. Navy is allowed to use the port through a defense cooperation agreement negotiated with the Spanish Government. All U.S. vessels are required to obtain diplomatic clearance with the Defense Attaché Office (DOA) in Madrid prior to entry. The port is continuously manned (24 hours a day, 7 days a week) by the Spanish Navy, and all radio communications are monitored.

The U.S. Navy (Supply Dept. Fuels Division) performs all fueling operations and valve manipulations on the piers regardless of customer. The Port Operations Department will respond to all water borne oil/fuel spill originating from U.S. Navy sources.

Pier 1 is a 1,600-foot/approx. 488-meter-long marginal wharf with a water depth of 42 feet/approx. 13 meters) used for issuing fuel to U.S. and commercial ships. JP-5 and F-76 are supplied from carbon steel pipelines linked to ASTs at the Bulk Fuel Farm and the Booster Pump House Area.

Pier 2 serves as the fueling and loading pier for the Spanish Navy. JP-5 and F-76 are issued to ships from carbon steel pipelines linked to ASTs at the Bulk Fuel Farm and the Booster Pump House Area.

Pier 3, also known as the Fuel Pier, serves as the major fueling pier for U.S. naval ships at Naval Station Rota. JP-5 and F-76 are issued to ships from carbon steel pipelines linked to ASTs at the Bulk Fuel Farm and the Booster Pump House Area. (Figure 3.11.1)

Other fuels are delivered to ships at all three piers upon request by fueling trucks.

JP-5, F-76 and JP-8 are received from tankers moored at Pier 3 and transferred to the Bulk Fuel Farm or the Booster Pump House Area via carbon steel pipelines. Petroleum products are also received from commercial sources at Pier 3 and transferred to CLH storage tanks located near the base under an agreement with the Spanish government.

Currents and Tides

Average tidal range for spring tides is 9.5 feet with a maximum of 11.5 feet. The overall range is stated as 7.1 feet. Tidal currents can be as high as 1.5 knots during ebb tide with a west set. Deep draft vessel harbor entry is limited to times near high tide. Reported minimum alongside depths at low water are: Pier 1, 42.5 feet and Fuel Pier 40 feet with 36 feet approach limits. Tidal data is available at: www.nemoc.navy.mil/pages/medports/Rota/curtides.html

3.11.2 Spill Prediction

Site 11 contains the following spill risks:

- Spills may occur at all three piers during fueling operations or as a result of pipeline or equipment failure. The highest probability for a spill would come from a leaking or ruptured transfer hose that is attached to a ship. Ships moored at the piers may have spills on their decks or discharge POL overboard through their overboard discharge fittings.

- POL or HS spills may occur during the loading or unloading of the ship's cargo.

In the event of a pipeline failure at Pier 3, fuel would spill directly into waters of the Bay of Cadiz, as the pipelines are suspended and totally exposed along side of or underneath the pier. The pipelines at Pier 2 are also exposed beneath the pier but have small containment troughs at the refueling stations.

Spills occurring at Piers 1 and 2 dispensing manifolds drain first into a holding trench and then into the sea. Spills on the piers would either sit on the asphalt until recovered or drained into the sea, depending on the spill location and size.

Small spills occurring at fuel riser manifolds at Pier 3 would be contained in drip pans located under the manifolds. Any fuel in the drip pans could be drained into the pier ballast line for recovery. Larger spills would overflow the drip pan and land on the concrete deck and flow into the water. Spills occurring after operating hours may not be detected until operations resume.

Should a pressurized transfer hose rupture, fuel will spray all over the pier and into the water.

POL or HS spills occurring on the piers due to loading/unloading operations may be contained and recovered using absorbent materials.

3.11.3 Storage

There is no fuel storage at the fuel piers. However, the ships and tankers moored at the piers will contain large amounts of various fuels.

3.11.4 Transfer

JP-5 and F-76 are issued to ships at all three piers from ASTs at the Booster Pump House Area and the Bulk Fuel Farm via pipelines.

The capability exists to transfer ballast water from Pier 3 to Tanks 209 and 210 at the booster pump house. This function currently does not occur. Ballast water is removed

from vessels by tanker trucks using a contract administered through the Naval Regional Contract Center (NRCC).
There are motor operated valves on the pipelines at the foot of Pier 3 that are remotely controlled from the control room on the pier. This allows the operator to quickly shut the valve on the pipeline in event of a failure on the pier and isolate the pier line from the rest of the system.

The issue rates for the pipelines at Piers 1 and 2 are:

- F-76: 1,500 barrels per hour
- JP-5: 1,200 to 1,300 barrels per hour.

The issue rates for the pipelines at Pier 3 are:

- F-76: 6,500 barrels per hour
- JP-5: 4,000 to 5,000 barrels per hour.

JP-5, F-76 and JP-8 are received by tankers at Pier 3 and transferred to ASTs at the Booster Pump House Area and Bulk Fuel Farm via pipelines.

The receipt rates for the pipelines at Pier 3 are:

- F-76: 8,500 barrels per hour
- JP-5: 8,500 barrels per hour
- JP-8: 8,500 barrels per hour.

3.11.5 Containment/Booming of Ships

Containment on the piers consists of drip pans under the fuel riser manifolds at Pier 3 and catchment basins under the issue connections at Piers 1 and 2. Absorbent materials such as sausages, kitty litter and pads can be used to contain and to clean up spills on the piers.

It is NAVSTA policy to the maximum extent possible to boom all U.S. Navy vessels during fueling operations.

3.11.6 Drainage Control

The drip pans beneath the fuel riser manifolds at Pier 3 drain into the ballast line.
The catchment basins under the issue connections at Piers 1 and 2 have to be emptied by hand or with a vacuum truck.

The table below provides an inventory of oil spill response equipment available at Port Operations.

Equipment Description	NAVSTA Rota, SP
Skimmer, RRS (Kvichak, Willard)	2
Boat, Platform	1
Boat, Utility	3
Truck, Vacuum	2
Boom, Class 2 (feet)	1400
Boom, Permanent (feet)	2000
Manual Boom Reel	0
Boom Reel w/2000 ft. boom & power pack	1
Mooring System, Boom	8 anchor systems (1 @ 70lbs., 7@ 22lbs.)

3.11.7 Security

The piers are located on a secured, fenced-in military base with security 24 hours a day for 365 days a year. The piers are well lighted at night. However, it may be difficult to detect spills in the water at night, despite the lighting. Unauthorized vessels may be able to approach the piers from the Bay of Cadiz.

Piers 1 and 2 do not have fences or locked entrance gates. Access is open to anyone on the base. Naval Station Rota Security performs drive-by security patrols on a 24-hour basis.

Pier III may be closed at the entrance by a sliding fenced gate. An electronic access control system has recently been installed for this gate. Signs posted at the gate state: “Muelle Pier III;” “Fuel Div. Pier No. 3 Prohibido: Vehiculos Particularos, Taxis, y Pescar. No unauthorized POV’s without authorization of the Petroleum Officer;” “No Fumar Desde Este Punto -- No smoking beyond this point.”

3.12 SITE 12
DRMO (Buildings 186 and 1811)

3.12.1 General Information

Site 12 is the Defense Reutilization and Marketing Office (DRMO). The DRMO is a branch of the Defense Logistics Agency (DLA) and is a tenant command of NAVSTA Rota.

The DRMO complex is located on the south central section of NAVSTA Rota, east of Fifth Avenue and south of Enriquez Street. The DRMO complex is used for the storage and disposition of surplus government property, including the temporary storage of hazardous waste and recyclable materials. The fenced-in complex consists of six buildings: Buildings 186, 242, 244, 1811, 3059, 3157, and Storage Shed 3147. (Figure 3.12.1)

NAVSTA Rota hazardous waste is managed in accordance with COMNAVACTSPAIN/NAVSTA Rota instruction 5090.1

DRMO (Building 1811), see Figure 3.12.1, is the only authorized hazardous waste storage area (HWSA) i.e., long term, on NAVSTA Rota. Hazardous wastes are consolidated at various satellite sites and transferred to DRMO for disposal.

Building 1811 complies with the requirements of Chapter 6 of Final Governing Standards (FGS) and is the most conforming storage area on NAVSTA Rota using DRMO criteria. DRMO is required by FGS to remove all waste within six months of receipt.

3.12.2 Spill Prediction

Site 12 contains the following spill risks:

- Material transfer from satellite areas to HWSA
- Material transfer to and from delivery vehicles
- Material transfer from storage area to storage area
- Container failure during storage.

Possible causes of a spills include containers falling off trucks or forklifts; containers being dropped during loading, unloading, and transfer; spills or releases during the consolidation of materials or products from smaller containers into larger containers; containers being struck by automobiles, forklifts or delivery vehicles; and container failure. Spills from these sources would be contained and would flow toward the oily water separator.

All containers are closed, non-leaking and safe to handle. DRMO does not open containers.
The table below provides common reportable quantities (RQ) examples in the event of a spill.

NOT SURE? REPORT IT!

Type material	Examples	RQ* (*ANY AMOUNT IN THE WATER!)	Equivalent* (*ANY AMOUNT IN THE WATER!)
Hazardous waste:			
D001 – Ignitable	Paint related material	100 pounds	12.5 gallons
D002 – Corrosive	Sulfuric Acid, Sodium hydroxide	100 pounds	12.5 gallons
D007 – Chromates	Alodine	10 pounds	1 gallon

3.12.3 Storage

Only non-bulk (<110 gallons) containers of hazardous waste are handled at DRMO. Maximum spill volume may be as large as 85 gallons. Typical size is 55 gallons. Building 1811 is specifically designed for the storage of hazardous waste with segregated storage compartments.

All types of hazardous waste and recyclable wastes, including POLs, lead-acid batteries, and PCB-containing materials are stored in the DRMO hazardous waste storage area.

Building 1811 is used to store equipment, oxidizers, flammables, and toxic materials. The building is divided into six separate storage bays. Each bay is clearly marked as to the type of material to be stored inside, and each has a separate containment drain to control with the flow, should a spill occur.

Six storage lockers, near the southeast corner of the storage area, store corrosives, flammables, PCB-containing material, and miscellaneous non-regulated waste. Each locker is clearly marked, and each provides spill containment.

Recyclable materials are stored mainly near the southwest corner of the storage area, under or near Shed 3147. Pallets of waste batteries are stored under the shed. Other liquid recyclable materials, including 55-gallon drums of POLs, are stored under the shed. Other recyclable materials, including oily rags and oil filters, are stored either under the shed, adjacent to it, or near the hazardous waste storage lockers.

There is one OWS located east of the storage area, just outside the fence line. All surface discharge will flow towards the drain that leads into the OWS. A spill kit containing various absorbents is located in the station office.

Inspections of area and equipment are performed weekly and daily when in use (refer to Volume 2 for written inspection schedule).

3.12.4 Transfer

Containers of HM/HW are received and removed from the storage area by trucks. Individual containers are transferred manually or by forklift to and from the specific storage areas within the storage area.

Offsite shipments of hazardous waste occur from this area. Offsite removal is performed using a Defense Logistics Agency (DLA) contract utilizing a Spanish contractor. No waste is shipped out of country. In the event of a spill off site, all procedures would be handled through DRMO's contracting office.

3.12.5 Containment

A concrete berm provides containment for the entire hazardous materials storage area. Each section of Building 1811 has a drain to collect any spills inside the building, and each of the storage lockers provides spill containment.

The concrete pad and seams are sealed with an epoxy coating.

Two mobile spill kits were observed within the secured storage area.

3.12.6 Drainage Control

Spills and runoff will flow west toward the oily water separator.

3.12.7 Security

The hazardous materials storage facility is enclosed by an 8-foot fence topped with barbed wire. The fence is locked when not in use, and access is controlled through the DRMO office. Signs are posted at each gate stating "UNAUTHORIZED PERSONNEL STAY OUT" in English and in Spanish, and lights on various buildings provide adequate lighting.

3.13 SITE 13
Pest Control (Building 1865)

3.13.1 General Information

Site 13 is the Pest Control Center (Figure 3.13.1). The compound, southeast of the corner of Bonifaz Street and Fifth Avenue, is used for the storage and preparation of the various pesticides, herbicides, and fungicides used on station. This compound consists of an office building (Building 1685), two storage buildings (Buildings 1865 and 1522), an equipment trailer, a general materials storage locker, five hazardous materials storage lockers, and several open areas used to store portable tanks and other application equipment.

Materials are ordered on an as-needed basis through the HAZMIN Center, and inventory remains minimal. Raw products are mixed with water or other appropriate materials and placed in portable tanks for application. All preparation activities occur in the mixing area, north of Building 1865. All mixed solutions are applied until the portable tank is empty so that no waste is brought back to the complex.

Pesticides are controlled using a pest management plan.

3.13.2 Spill Prediction

Site 13 contains the following spill risks:

- Material transfer to and from delivery vehicles
- Material transfer from storage area to storage area
- Material storage
- Mixing of materials for application.

Possible causes of a spills include overfill of portable tanks during the material mixing process; transfer of diesel fuel; refueling of vehicles; material containers falling off trucks or forklifts; containers being dropped during loading, unloading, and transfer; containers or portable tanks being struck by automobiles, forklifts or delivery vehicles; tanks or container failure, leaks from “empty” portable tanks.

The table below shows typically used pesticides that may cause a significant spill.

NSN[2]	Chemical	RQ	Equivalent
6840007823925	Diazonon[1]	1 lb.	1 pint –or- ½ liter
6840008237849	Pyrethin[1]	1 lb.	1 pint –or- ½ liter
6840011222651	Dursban[1]	1 lb. - clorpyrifos	1 pint –or- ½ liter

[1]May be stored at HAZMIN (Site 3) -or- Pest Control (Building 1865)
[2]Only pesticides with national stock number (NSN) referenced, 42% of pesticides used are local purchase.

Building 1865

This building is the main storage area for insecticides, rodenticides, and fungicides. Materials are stored inside the building with no drains or routes of discharge from the storage areas. The most likely scenario for a spill would be during loading, unloading, or transfer operations.

The attached carport covers the mixing area that is in a low point that is sloped on the east and west to contain any spills. The area also has a containment berm to the north and is contained by the building to the south. Any spills in this area would most likely occur during the mixing process, and all discharges would flow into a drain that leads to the sump located south of Building 1865.

A diesel AST is adjacent to the south side of the building. Should the AST fail, the diesel fuel would be contained in the concrete berm surrounding the tank. However, spills or releases occurring during fuel delivery or refueling activities would most likely occur outside the containment area and fall directly onto the pavement where it could discharge off site.

Storage Lockers

There are six storage lockers and one storage trailer on site. The trailer and adjacent locker are used to store equipment and non-hazardous materials and supplies. The potential for spills from these lockers is low.

The remaining five lockers are used to store insecticides, herbicides, rodent control bait, and equipment such as rodent traps. The hazardous materials are segregated and stored in the appropriate locker until moved to the mixing area. Each locker is secured, marked and labeled according to the material to be stored. However, the lockers provide minimal containment, and any spills or releases would potentially flow off site.

3.13.3 Storage

Building 1865

This building is used to store insecticides, rodenticides, and fungicides. Materials are stored on shelves inside locked storage rooms. The rooms are self-contained and have no drains or routes of discharge.

During the site visit, Building 1865 contained 20 one-gallon bottles of liquid insecticide, a dozen 14-ounce cans of spray insecticide, three 20-pound bags of rodenticide, and five 1-kilogram bags of fungicide.

A diesel AST is adjacent to the south side of the building. The tank holds approximately 200 gallons and is enclosed by a concrete containment berm.

Storage Lockers

There are six storage lockers and one storage trailer on site. The trailer and adjacent locker are used to store equipment and non-hazardous materials and supplies. The first hazardous materials locker was marked for insecticides and contained six 2.5-gallon bottles of Carbanyl insecticide. A second locker, marked for herbicides, contained 13 50-pound bags of Regal Star herbicide. The third hazardous materials locker contained combat rat and roach bait, and the fourth contained termite control equipment. The last locker was empty.

3.13.4 Transfer

All materials are delivered and unloaded in the designated area outside of Building 1865. The materials are then segregated and transferred manually or by forklift to an appropriate location within the compound.

The diesel AST is filled as needed, and the sump, south of Building 1865, is pumped out by a contractor as needed.

3.13.5 Containment

All floor drains are connected and flow into an 800-liter (200-gallon) underground holding tank that then flows to a sanitary sewer. Tank has an inlet connection for adding water to the tank and an outlet valve to regulate discharge.

Building 1865

Materials are stored in separate storage rooms inside the building. These rooms have no drains or routes of discharge and remain locked when not in use. All spills would be contained inside the storage room.

The attached carport covers the mixing area that is in a low point that is sloped on the east and west to contain any spills. The area also has a containment berm to the north and is contained by the building to the south. Any spills in this area would flow into a drain that leads to the sump located south of the building.

The diesel AST is contained by a concrete berm that surrounds the tank. Spills or releases occurring outside the containment area can fall directly onto the pavement where it could discharge off site. The berm has a manually operated drainage valve, which was open during the site visit.

Materials Storage Lockers

Each locker is kept secure; however, the lockers provide minimal containment, and any spills or releases would potentially reach the perimeter and flow off site.

3.13.6 Drainage Control

Drainage from the mixing area and AST are discussed above. The perimeter of the compound provides no drainage control, and any material reaching the perimeter would flow off site.

3.13.7 Security

The Pest Control Center is completely enclosed by an 8-foot chain-link fence that is locked after operating hours and when no one is on site. All buildings and hazardous materials lockers are locked when no one is present, and the key is maintained in Building 1685.

Lighting is provided by lights mounted on top of Building 1865 and appears to be adequate to observe and respond to spills in and around the Pest Control Complex.

3.14 SITE 14
Air Force (725th AMS) Operations and Dispensing Area (Building 1989)

3.14.1 General Information

Site 14 is located on the base flight line. 725th Air Mobility Squadron supports flight line equipment and provides flight line service for the Air Force.

3.14.2 Spill Prediction

Site 14 contains the following spill risks:

- Two 1,700-gallon steel ASTs containing MOGAS and JP-8. (Figure 3.14.1)
- Hazardous waste accumulation point.

Possible causes of a spill include: personnel error during the transfer of fuel from tanker truck to AST, while using the dispenser pumps (currently broken), and while using the fueling hose or mechanical failure. Spills from these sources would not be contained and would flow across the asphalt into storm drains directly in front of the AST containment wall. The largest possible spill volume would be the volume of one of the ASTs, 1,700 gallons, which should be contained in the containment field around the tanks.

Another potential spill source is the HW accumulation point located in a secure self-contained storage locker adjacent to Building 1688. A spill here would be contained within the lockers secondary containment.

3.14.3 Storage

MOGAS and JP-8 are stored in two single-walled steel ASTs surrounded by a concrete containment wall.

Various corrosives, solvents, batteries, acids, and POLs from maintenance work on flight line equipment are stored in the HW accumulation point.

A spill locker, fire extinguisher, and eyewash and shower are located next to the HW accumulation point and ASTs.

3.14.4 Transfer

MOGAS and JP-8 are transferred from tanker trucks to the ASTs through fill ports. Fuel is transferred from the ASTs to a vehicle or aircraft through a fuel dispenser.

3.14.5 Containment

The two ASTs have a concrete containment wall surrounding them. The HW storage locker has built-in secondary containment.

3.14.6 Drainage Control

Spills and runoff from the asphalt and concrete surface around the ASTs would flow directly into storm drains located around the containment walls. These drains lead to a storm water drainage ditch directly behind the tanks. Spills and runoff from the HW accumulation site would flow south towards a grassy area and into the above-mentioned storm water drainage ditch.

3.14.7 Security

Air Force (725 AMS) operations are located on a secure flight line. Access is restricted, and the area is protected by fencing. Entrance is controlled at all times by an electronic security gate that requires a security pass card. Security personnel regularly patrol the flight line. Buildings are locked after hours. The area has adequate lighting.

3.15 SITE 15
NAVSTA Air Operations

3.15.1 General Information

Air Operations Department is responsible for the flight line. The Department consists of primarily four divisions: 1) Air Traffic Control and Operations, 2) Fire Department, 3) Ground Electronics, and 4) Air Facilities Maintenance.

The Fire Department is the Incident Response Team (IRT) and first responders to land oil and hazardous substance spills. Through that role the Fire Department will periodically be required to handle, consolidate and dispose of spill cleanup debris. Often the spiller is not identified or non-existent.

3.15.2 Spill Prediction

Spill risks would be transfer of materials during spill cleanup operations.

3.15.3 Storage

Storage of spill debris will be consolidated at the hazardous waste accumulation point next to Building 1917 (C12 Hanger). (Figure 3.15.1)

3.15.4 Transfer

Transfer operations would be spill cleanup from land spills.

3.15.5 Containment

Hazardous Waste Accumulation Point (HWAP)

All liquid wastes are stored inside a self-contained locker, and the new-oil drum is provided containment. However, no other containment is provided, and any spill occurring on site could reach the soil.

3.15.6 Drainage Control

Hazardous Waste Accumulation Point (HWAP)

The HWAP is surrounded by a chain-link fence that is locked when no one is present. There are no lights specifically for this area, but it is located adjacent to the flightline that is patrolled by military police 24 hours per day.

3.15.7 Security

There is adequate lighting around NAVSTA Air Operations buildings to observe and respond to spills. The area is located on a secured, fenced-in military base with security 24 hours a day, 365 days a year.

3.16 SITE 16
Camp Mitchell (Seabees)

3.16.1 General Information

Site 16 is located on the southern section of the base. Seabee units perform general construction and base maintenance projects. Seabee battalions occupying Camp Mitchell rotate out every six-months. A 2nd Brigade representative (Camp Zar) is on hand for continuity.

3.16.2 Spill Prediction

Site 16 contains the following spill risks:

- Fuel transfer and dispensing
- High pressure water wash rack at Building 382
- 1,320-gallon double-walled AST containing used oil and hydraulic fluid at Alpha Company maintenance yard
- Hazardous waste accumulation points at Alpha Company maintenance yard (Figure 3.16.1)
- Hazardous waste accumulation point at Bravo Company maintenance yard. (Figure 3.16.2)

Oily water washed off of vehicles and equipment during cleaning operations at the high-pressure water wash rack would partially be contained in the wash area. Most of the oily water would flow to drains which run to an OWS. Some oily water would escape containment due to the poor state of the wash area and would flow to nearby soil.

Spills occurring with the 1,320-gallon AST, located between Buildings 1750 and 1769, would not be contained and would pool on the asphalt and flow south towards nearby soil and vegetation. The AST is double walled, and a spill from it would be unlikely.

Spills occurring at the Alpha Company HW accumulation point, also located between Buildings 1750 and 1769, would flow south towards nearby soil and vegetation.

Spills occurring at the Bravo Company HW accumulation point, located between Buildings 1772 and 356, would flow southwest towards nearby soil and a storm water drainage ditch.

3.16.3 Storage

Used oil and hydraulic fluid from vehicle maintenance is stored in a steel double-walled AST.

Various corrosives, solvents, batteries, acids, and POLs from maintenance and construction work are stored at both Alpha and Bravo Company HW accumulation points. Both dry and liquid HW are stored in multiple 55-gallon drums.

There is one OWS located adjacent to the vehicle wash rack. Drainage from the wash rack runs into the OWS.

Spill kits containing various absorbents are located near all spill risks.

3.16.4 Transfer

Used oil and hydraulic fluid from vehicle maintenance are collected in 55-gallon drums, which when full are pumped into a 1,320-gallon AST. When the AST is full, a local contractor pumps the used oil out. HW is delivered to the DRMO.

3.16.5 Containment

All ASTs and USTs are single walled except for the 1,320-gallon used oil AST which is double walled.

The HW accumulation points at both Alpha and Bravo Company are located in open walled sheds with built-in secondary containment on the shed floors.

3.16.6 Drainage Control

Spills and runoff from the Alpha Company HW accumulation site, including the 1,320-gallon AST, would flow southeast across the asphalt and into nearby soil and vegetation. Spills and runoff from the Bravo Company HW accumulation point would flow into one of three storm sewer grates that discharge to storm drainage ditches behind Building 1772.

3.16.7 Security

There is adequate lighting around Camp Mitchell to observe and respond to spills. The area is located on a secured, fenced-in military base with security 24 hours a day, 365 days a year.

3.17 Miscellaneous ASTs

3.17.1 General Information

This section deals with the miscellaneous ASTs (non-bulk storage) located around NAVSTA, and also addresses four (4) USTs not covered by a specific site. Almost all of these tanks are used for heating and are under the control of the Fuels Department. Many of these tanks are located at the two residential areas at NAVSTA Rota: Las Flores and Las Palmeras. Adequate secondary containment is provided for Las Flores housing units and for most of these ASTs located around the base. Table 3.17.1 below lists NAVSTA miscellaneous ASTs, and Table 3.17.2 lists the four USTs.

Table 3.17.1: NAVSTA Rota's Miscellaneous ASTs

Building	Location	Gallons	Contents
60	Shop Store #2	275	Diesel
61	Pipe Shop	275	”
62	Carpenter Shop	275	”
97	Hobby Shop	275	”
145	PW Maintenance Office	275	”
146	Electrical Shop	275	”
147	Metal Shop	275	”
148	PW Garage	1000	”
149	PW Transportation	275	”
158	Reefer Shop	275	”
175	NEX Office	275	”
189	Port Dept. Office	275	”
182	Housing Community Center	275	”
204	Kindergarten	275	”
207	Security Office	2 X 275	”
208	Printing Office	275	”
209	Post Office	275	”
228	Bowling Center	275	“
264	AVGAS Garage	2 X 275	“
518	Line Shack	275	“
519	Fuel Branch Office	275	“
560	GCA Crew Bunkroom	275	“
600	Fuel Division Office	275	“
602	Fuel Div. Ground Equipment	275	“
655	Fuel Div. Maintenance	275	“
1631	Reflection Club	1000	“
1800	AIMD Maintenance	4000	“
41	Laundry Facility	2000	“
1865	Pest Control	500	“
1995	Mortuary	500	“
Pier 1	Crane Crew Facility	275	“
1963	Child Development Center	1000	“
Pier 2	Spanish Boiler	275	“
3071	Fleet Mail Center	500	“
162	Housing Self Help	275	“
163	Housing Maintenance	275	“
571	DGF School	500	“

Table 3.17.1: NAVSTA Rota's Miscellaneous ASTs			
Building	**Location**	**Gallons**	**Contents**
572	DGF School	500	Diesel
82	DGF School	3000	"
542	DGF School	1000	"
1604	DGF School	500	"
178	NEX	1500	"
Las Palmeras	Housing	243 X275	"
Las Flores	Housing	320 X 275	"
70	Water Reservoir	275	"
135	Air Freight	250	"
26	GEMD TACAN (north of runway)	275	"
224	GEMD Receiver (north of runway)	1000	"
136	GEMD Radar (north of runway)	275	"
42	Chapel	275	"
579	NEMOC	500	"
547	DGF School	500	"
343	Camp Mitchell (Saloon)	275	"
394	Camp Mitchell (Clinic)	275	"
1772	Camp Mitchell (B Co.)	1000	"
1779	Camp Mitchell (BOQ)	275	"
1662	NSGA	1000	"
3043	NSGA (fire pump)	100	"
221	NCTAMS	(3 ea) 100	"
3045	AFRTS	1000	"

Table 3.17.2: NAVSTA Rota's Miscellaneous USTs			
Building	**Location**	**Gallons**	**Contents**
221	NCTAMS	5000	Diesel
1851	NCTAMS/SATCOM	3000	"
533	NSGA	8000	"
1802	Hospital	(2 each) 4000	"

3.17.2 Spill Prediction

Possible causes of a spill include personnel error during transfer of fuels from tanker truck to AST or a mechanical problem with the AST. The largest possible spill volume would be the total volume of the AST involved.

3.17.3 Storage

All tanks contain diesel for heating purposes or emergency power generation.

3.17.4 Transfer

Most of these tanks are filled through a Fuels Contract (Repsol) managed through DCMD. NAVSTA Fuels Department assumes responsibility for the contractor. Repsol trucks do not have automatic shutoff. Most spills occur during fueling.

Fuels Department Dispatch (extension 4989) is to be notified in the event of a spill.

3.17.5 Containment

All aboveground tanks have visual level detection. The majority have spill containment berms and some are equipped with overfill protection and high-level alarms.

All underground tanks are equipped with have high-level alarms, overfill protection, spill containment catch basins on fill port and leak detection systems.

3.17.6 Drainage Control

Unknown.

3.17.7 Security

Tanks located in isolated locations have locked fill ports.

All of the ASTs listed are located on a secured, fenced-in military base with security 24 hours a day for 365 days a year.